US FCC Part 15 Class B Verification Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

DCT

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1 OPENING AND CHECKING THE PACKAGE

The following procedures should be carried out with the power supply disconnected, unless specified otherwise.

Installation should be carried out only and exclusively by skilled, authorised technicians.

Technical note or hint on use.

1.1 Contents of the package

When the product is delivered make sure the package is intact and has no obvious signs of dropping, scrapes or scratches. If the package is obviously damaged contact the supplier immediately.

- 1 DCT keyboard
- 1 external power supply
- 6 telephone cables, 6/6 point-to-point, length approx. 150 cm
- 6 RJjack shunt boxes
- 1 RS232 connection cable for personal computer
- 1 floppy disk or CD-ROM for auxiliary Personal Computer during keyboard setup
- this user's manual.

Make sure the contents correspond to the list of materials as above.

1.2 Opening the package

If the package is not obviously damaged (due to dropping or scrapes and scratches), check the material contained in it against the list provided in the relevant section, see *§ 1.1 - Contents of the package, pag. 9*. Dispose of the packing material according to the recycling regulations in force in the country where the appliance is used.

1.3 Checking the markings

Before proceeding with installation, make sure the supplied material corresponds with the required specifications by examining the marking labels, as described in *see § 1.4 - Description of the labels , pag.9.*

	Never, under any circumstances, make any changes or connections that are not included in this manual: the use of inappropriate appliances may expose personnel and the system to serious safety hazards.

1.4 Description of the labels

On the bottom of the DCT keyboard there is a label conforming to CE markings, showing the data regarding the model identification code and the serial number (EXT3/9 bar code),
The power supply provided with the keyboard shows the information regarding the electrical specifications of the keyboard power supply.

2 DESCRIPTION OF THE KEYBOARD

2.1 Features

The keyboard is a product for professional use in security and surveillance sector applications.
In a security system the keyboard is used to control video switching, to manage possible alarm events and for remote control of digitally controlled receivers.

2.1.1 Keyboard

- Backlit LCD, 320x240 pixel, provided with Touch Screen
- Easy to use: the most frequent operations are carried out by pressing a single key
- Telemetry control using the 3-axis joystick (PAN/TILT/ZOOM)
- Integrated GRAPH environment with the opportunity to customise images and keys

2.1.2 Configuration

- Complete keyboard configuration by on screen setup
- Selection of national language
- Control of a vast range of high speed domes and receivers
- Acceptance/disabling of output and input can be controlled by each keyboard
- Acceptance/disabling of groups of functions
- Autotest of communication channels
- RS485 communication lines

2.1.3 Security

- Communication failure and alarm buzzers
- 3 password levels, configurable individually in each keyboard:
    1. password at starting: required when the keyboard is switched on, to prevent use by unauthorised personnel
    2. alarm reset password : required for resetting an alarm event from the keyboard
    3. setup password: required when a setup is needed (for both the keyboard and the matrix)

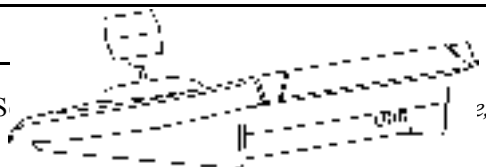
Each password consists of a series of 5 digits and can be disabled by setting it to 00000.

2.1.4 Technical data

Keyboard	*Dimensions*	*298x107x210mm*
	Weight	*900g*
Power supply	*Input voltage*	*100-240Vac 47-63Hz*
	Output voltage	*12Vdc - 1A*

2.2 Appliances that can be connected to the DCT keyboard

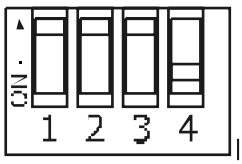
2.2.1



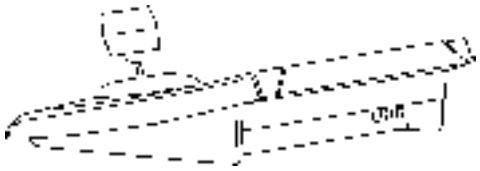
S ..., pag. 23.

2.2.2 Multiplexers / DVR's

See § 4.2.3.2.2 - *Protocol – Baud rate, pag. 25*.



2.3 Connectors



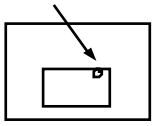
The keyboard has three RJ11 connectors on the back of the machine, a power supply connector, a configuration DIP switch and a DB9 socket for connection with the Personal Computer.

The VIDEO line controls the video system connected to the keyboard. Lines A and B control the first and second telemetry channel respectively. The dip-switches are used to insert or remove the 120 Ohm termination load for each RS485 line (see § 3.2 - RS485 and types of systems, pag. 14).

Power supply connector

2.4 Adjusting the contrast

On the bottom of the keyboard there is a hole to reach the trimmer for adjusting keyboard contrast.
Using a flat-headed screwdriver with a fine tip it is possible to adjust the trimmer until the best visibility is obtained.



2.5 DIP switch

The back of the keyboard has a DIP switch that is used to insert/remove the load on the RS485 lines and to allow connection to the Personal Computer.
Refer to *§ 3.1 - Video line and telemetry lines, pag. 14* for further information about inserting the line loads.

DIP1	*ON: PC connection mode*
Keyboard programmable by PC	*OFF: normal mode*
DIP2	*ON: load inserted*
Load on Telemetry line A	*OFF: load removed*
DIP3	*ON: load inserted*
Load on Telemetry line B	*OFF: load removed*
DIP4	*ON: load inserted*
Load on video line	*OFF: load removed*

	During normal keyboard operation DIP1 should be kept in the OFF position, otherwise it is impossible to communicate with the devices connected to the VIDEO line connector.

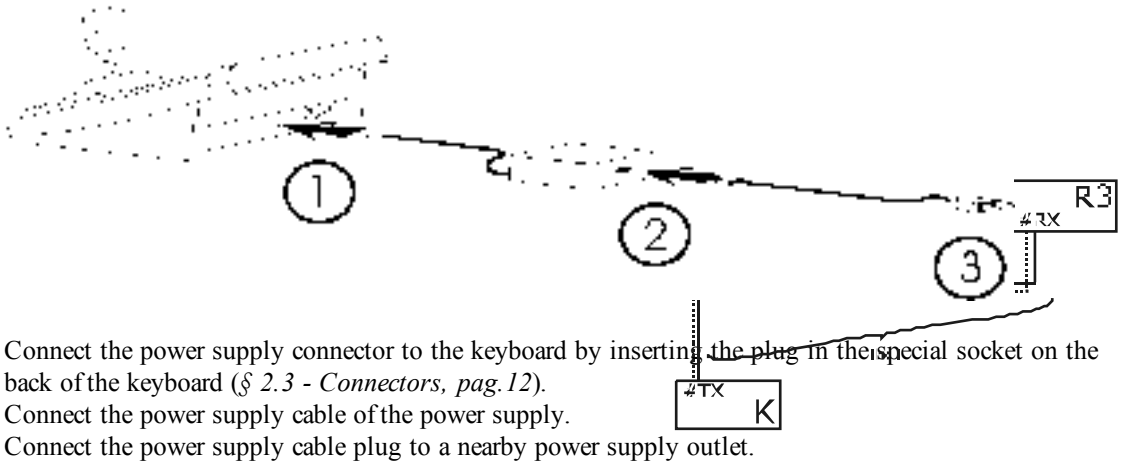
2.6 Safety precautions when using the keyboard

- Do not use appliances with damaged or loose plugs.
- Do not take out the plug by pulling the cable and do not touch the plug with wet hands.
- Do not bend the plug and wire excessively and do not damage them by putting heavy objects on top of them.
- Do not connect too many extension leads or plugs to a single current outlet.
- Position the keyboard on a level, stable surface.
- Do not allow liquid to get inside the keyboard.
- Do not place heavy objects on the keyboard, and in particular on the sensitive surface of the display.
- Do not use gloves or objects with abrasive surfaces.
- Do not position glasses of water, chemicals or other small objects in such a way that they could damage the sensitive surface of the display.
- Do not use abrasive sponges or pointed objects on the sensitive surface of the display.
- Before cleaning the display disconnect the power supply.
- Do not clean the touch screen with detergents or aggressive substances (e.g. Ammonia-based)

2.7 Installing the keyboard

	Before connecting the power supply make sure the specifications for the keyboard power supply correspond to those for the system power supply. *To power the keyboard it is essential to use the power supply provided with the keyboard itself.* ***Using inappropriate and/or different equipment could expose personnel and the system to serious safety hazards.***

Procedure for connecting the keyboard:



1. Connect the power supply connector to the keyboard by inserting the plug in the special socket on the back of the keyboard (*§ 2.3 - Connectors, pag.12*).
2. Connect the power supply cable of the power supply.
3. Connect the power supply cable plug to a nearby power supply outlet.

If the display lights up and shows an image this means the keyboard has been installed correctly.

To connect the appliances that can be controlled by the keyboard refer to section *§ 3 - COMMUNICATION LINES AND CONNECTIONS, pag.14.*

3 COMMUNICATION LINES AND CONNECTIONS

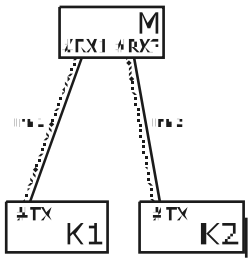
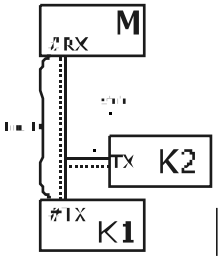
3.1 Video line and telemetry lines

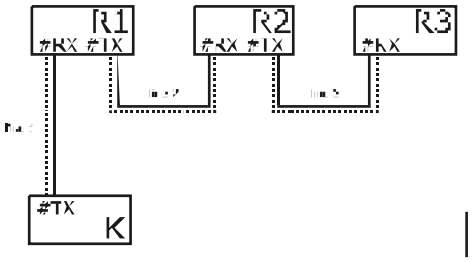
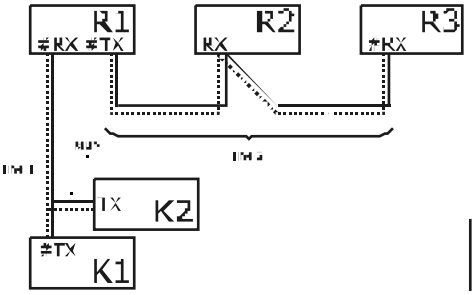
TheDCT keyboard can be used to control a wide range of products, for both video control (video matrixes and video multiplexers) and telemetry control (receivers or domes). It is therefore necessary to define the system structure at the keyboard level so as to achieve efficient communication between the connected devices.
"Video line" means the communication channel intended to control the video device; "telemetry line" means the two channels available for telemetry control.
We advice starting with the configuration of the single "video line" and after that passing to the configuration of the "telemetry lines".

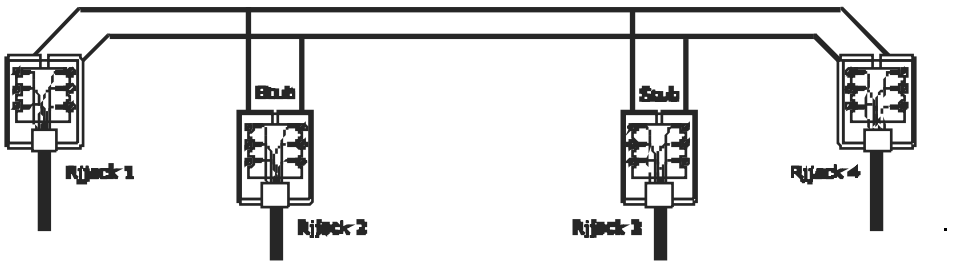
3.2 RS485 and types of systems

The RS485 communication channels are 2-wire lines whose maximum length from end to end is 1200m.
Termination of the RS485 lines prevents signal reflection along the cable, and should be inserted in each of the devices that forms the end of a connection.
Systems can be of different types, therefore the way of terminating the lines will also be different.

In the following diagrams, the devices requiring termination are indicated by the # symbol.

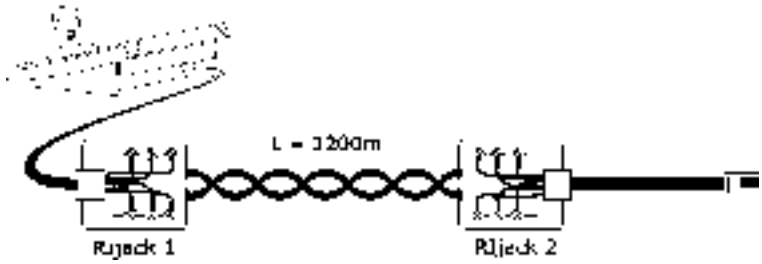
Configuration	*Description*	*Example*
Star / Single lines	*For each connection between two devices there should be a separate communication line, with a maximum length of 1200m. All devices should be terminated, because each appliance is connected to the end of a line.*	
Backbone	*A single line is used, and the transmitters can be placed in any position along it. The two ends of the line (keyboard K and receiver R3 in the example) are terminated; the other devices (R1 and R2) are not terminated. The maximum length of the line is 1200m. The specifications for the RS485 standard allow at least 32 devices to be connected along the same line.*	
Line with stub	*A certain number of stubs can be shunted in parallel to the standard RS485 line, for connection to other devices. The stubs are not at the ends of the line, should not be terminated and they should be very short in length (of the order of a couple of metres). The specifications for the RS485 standard allow at least 32 devices to be connected along the same line.*	

Devices in a chain	*The devices are connected in pairs using single lines. These should be terminated at the ends. This type of configuration can only be made when the devices used have separate input (reception) and output (transmission) channels, such as The VIDEOTEC DTRX1 and DTRX3 receivers..* *The received signal is sent "clean" to the next device. If one device is blocked, communication is cut off to the devices that follow.* *The maximum total length is equal to the number of lines multiplied by 1200m for each stage.*	
Mixed configuration	*It is possible to set up mixed configurations, always bearing in mind the limits given above:* ◆ *each line can have a maximum length of 1200m* ◆ *each line should be terminated at the ends* *the stubs should be very short (max 2m)*	



3.3 One keyboard per line: standard connection cable

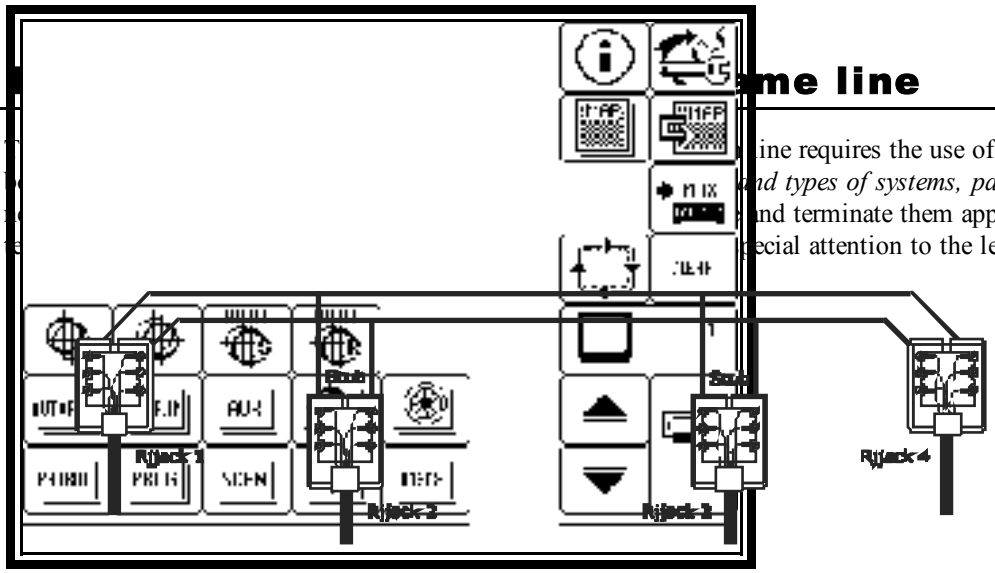
The connection between the DCT keyboard and the various controlled devices is made only and exclusively using an RS485 serial channel.
When the controlled device does not allow for this channel it will be necessary to insert a signal converter (for example RS485-RS232, or RS485-Current Loop) between the keyboard and the device itself.
A pair of telephone cables and a pair of RJjack shunt boxes can be used to arrive at distances of up to 1200m, using the following connection diagram:



DCT	RJjack 1	RJjack 2	Device
RS485A	*white*	*blue*	*RS485A*
RS485B	*yellow*	*black*	*RS485B*

3.4 [illegible]me line

[illegible]ine requires the use of RJjack shunt
[illegible]nd types of systems, pag.14, it is
[illegible]nd terminate them appropriately (to
[illegible]ecial attention to the length of the stubs.



Transmitter device (keyboard)		Receiving device (video matrix, telemetry receiver
RS485A - white	----------	*blue - RS485A*
RS485B - yellow	----------	*black - RS485B*

4 CONFIGURING THE KEYBOARD

4.1 Description of the system

4.1.1 How to interact with the keyboard

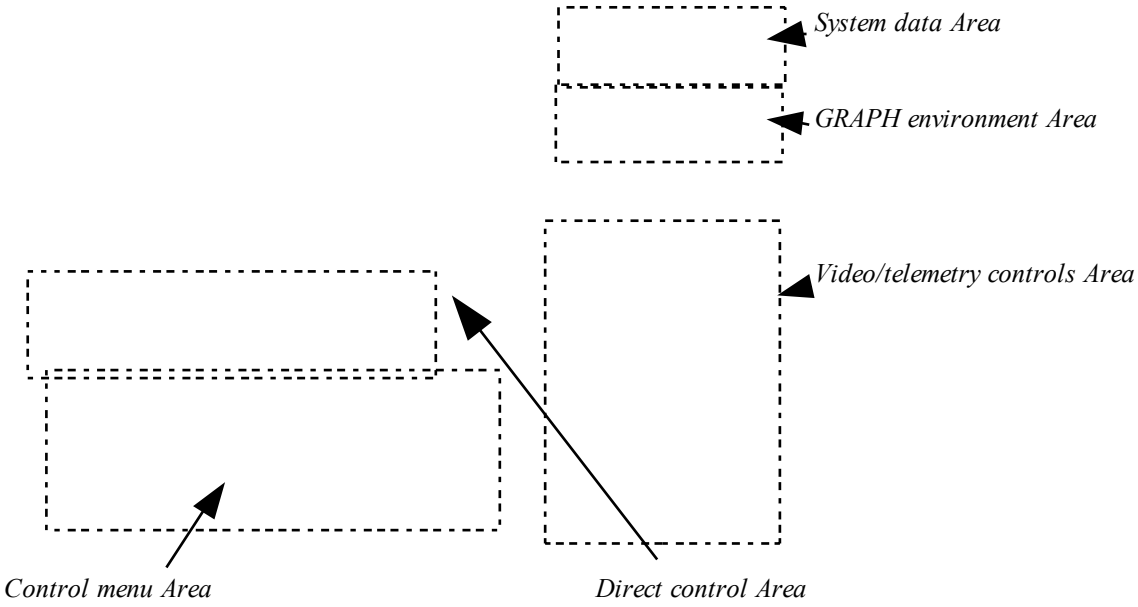
The keyboard is provided with a touch screen, which means that a sheet of material sensitive to finger pressure is superimposed on the glass of the display.
The display shows images, each with a specific meaning, and pressing one of these will obtain a sound signal and will send commands to interact with the system.

4.1.2 Switching on the system

When the keyboard is powered, the system will show a system presentation screen and then pass on to show the MAIN menu unless the starting password has been enabled, in which case insert the code and confirm.

4.1.3 Main Menu

The purpose of this section is to introduce the user to the system so that he can familiarise himself with some concepts and operational aspects.
The MAIN menu is the starting point from which all the keyboard functions are carried out. It is divided into areas. Each area is used to carry out particular functions.
The following image shows only one of the possible system configurations. So do not worry if the image appearing on your display is slightly different.



4.1.3.1 System data area

In this area there are two keys for carrying out the following functions:

- access to the system setup menus (*see § 4.2.1 - System Setup , pag.19*)
- display of main system settings (*see § 4.5 - Direct control area, pag.50*).

4.1.3.2 GRAPH Environment Area

In this area there are two keys for carrying out the following functions:

- recall the GRAPH environment from the page (*see § 4.6 - GRAPH Environment Area, pag.51*).
- recall the GRAPH environment from the last page to be visited

4.1.3.3 Video/telemetry control Area

In this area there is a series of keys, the number of which depends on the type of system configuration. Basically they are used to operate the matrix or multiplexer connected to the VIDEO connector and to select the devices connected on the two TELEMETRY lines A and B (*see § 4.3 - Video/telemetry control area, pag.43*).

4.1.3.4 Control menu Area

In this area there is a series of keys that are used to enter the menus for activating specific functions. (*see § 4.4 - Control menu area , pag.45*).

4.1.3.5 Direct control area

In this area there is a series of keys, the number of which depends on the type of system configuration and on the type of device connected to the keyboard(*see § 4.5 - Direct control area, pag.50*).

4.2 System data Area

From the MAIN menu, in the system data area, there are two keys that are used to enter the following menus:

SYSTEM SETUP
Used to enter the menu for changing all the keyboard parameters
(*see § 4.2.1 - System Setup , pag.19*)

SYSTEM INFO
Used to obtain the most important information about how the system is configured and to enter the "SERVICE" screen.
(*see § 4.2.7 - System Information and service menu, pag.42*)

4.2.1 System Setup

To prevent changes to keyboard configuration or limit them to authorised personnel only, access to the PARAMETERS menu can be restricted by requiring the insertion of a password.

The menu can be used to set up the keyboard operating mode by configuring a series of parameters.

4.2.1.1 Structure of the setup menu

The following is a list of parameter categories that can be set in this menu, and their corresponding icons:

LANGUAGE

COMMUNICATIONS
- VIDEO
- TELEMETRY
- SERIAL TESTS

ACCEPTED VALUES
- CAMERAS
- MONITOR/LOCAL MULTIPLEXER
- CAMERAS EXTERNAL MULTIPLEXER
- EXTERNAL MULTIPLEXER
- FUNCTIONS
- COMMON KEYS

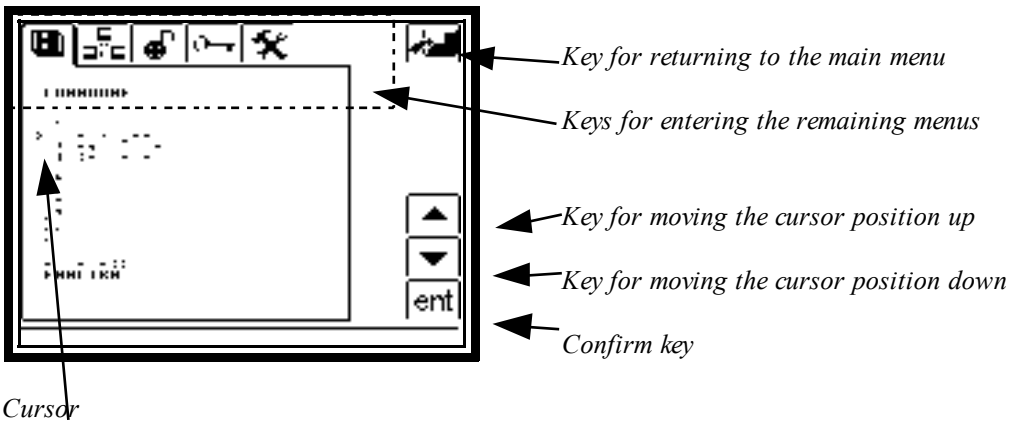
PASSWORD

CONFIGURATIONS
- RESTORE BASE VALUES
- BUZZER
- JOYSTICK
- TOUCH SCREEN CALIBRATION
- TOUCH SCREEN TEST

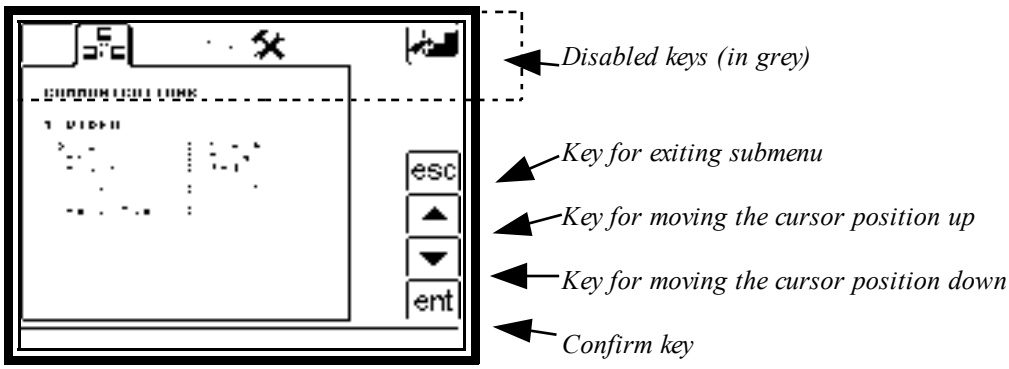
4.2.1.2 Introduction to the menus and submenus

The setup menu consists of a series of screens that are activated by pressing the keys represented by the icons in the active area. When a submenu is entered, it is impossible to change page or exit the PARAMETERS menu (the corresponding icons are shown in grey). To exit the submenu press the key.
To return to the MAIN menu press the key.

Example of a menu.


ent
Key for returning to the main menu
Keys for entering the remaining menus
Key for moving the cursor position up
Key for moving the cursor position down
Confirm key
Cursor

Example of a submenu.



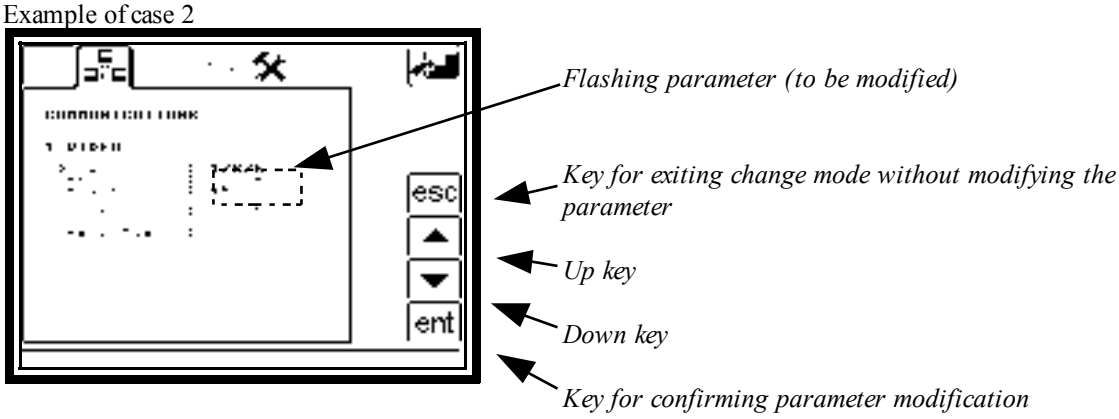
4.2.1.3 How to change the parameters

To change a parameter, select it by positioning the cursor next to it and pressing the key.

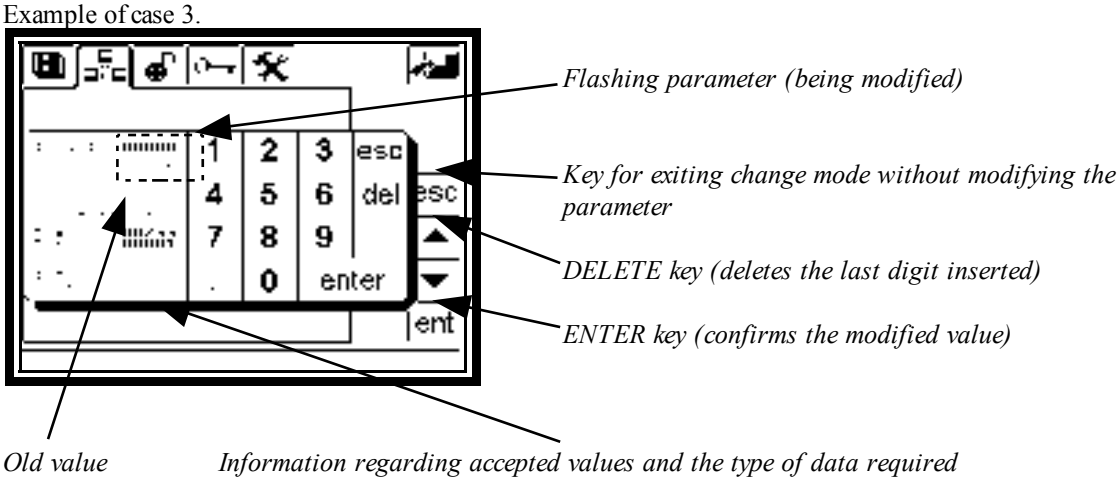
There are three distinct cases:

1. "Simple" parameters whose modification is linked to pressing the key. In this case, every time the key is pressed the parameter alternates, showing the possible values.
2. Parameters containing a choice of values. In this case when the key is pressed the text starts to flash and the up and down keys can be used to choose between the displayed values. The key is used to confirm the new value. To leave it unchanged press the key.
3. Parameters containing a numerical value. In this case when the key is pressed a numeric keypad appears and this can be used to change the value.

Example of case 2

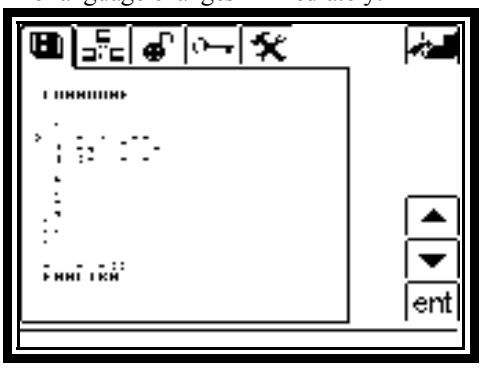


Example of case 3.



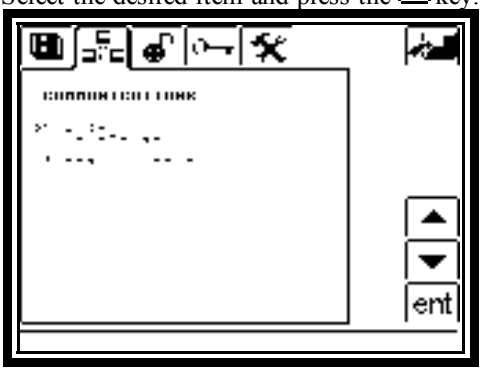
4.2.2 Language

Position the cursor next to the desired language and press the ↵ key.
The language changes immediately.



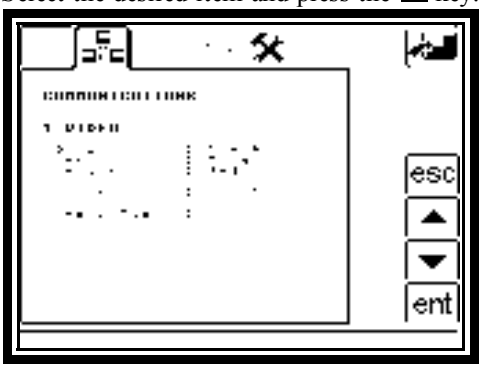
4.2.3 Communications

This menu is used to set up the type of devices that will be controlled by the keyboard and to carry out a procedure to test correct operation of the serial communications.
Select the desired item and press the ↵ key.



4.2.3.1 Video

This menu is used to set up the type of devices that will be connected to the VIDEO connector.
Select the desired item and press the ↵ key.



4.2.3.1.1 Type – Protocol – Baudrate

Type stands for the connected matrix model expressed as "number of input videos"/"number of monitors". For example 4/2 means a matrix with 4 input videos and 2 output monitors.
If the item "multiplexer" is selected the model is specified in the protocol.
The term "Protocol" refers to the communication "language" used by the device.
"Baudrate" refers to the data transmission rate.
See specific sections of the manual for the correct settings of these parameters (*see § 5 - VIDEO MANAGEMENT, pag.52*).

Tipo	***Protocollo***	***Baudrate***
8/4 ENEO EKR	*MACRO*	*1200-9600-19200-38400*
16/4 ENEO EKR	*MACRO*	*1200-9600-19200-38400*
16/4 ENEO VKR	*ENEO*	*9600*
32/8 ENEO VKR	*ENEO*	*9600*
		300-1200-2400-9600
		1200-9600-19200-38400
		300-1200-2400-9600
		1200-9600-19200-38400
		300-1200-2400-9600
		1200-9600-19200-38400
		300-1200-2400-9600
		1200-9600-19200-38400
		300-1200-2400-9600
32/8 VIDEOTEC	*MACRO*	*1200-9600-19200-38400*
	VIDEOTEC	*9600*
128/16 VIDEOTEC	*MACRO*	*1200-9600-19200-38400*
Multiplexer	*ADEMCO MUX*	*1200-2400-4800-9600-19200*
	ADEMCO AHDR4	*300-600-1200-2400-4800-9600-19200-38400*
	ADEMCO AHDR9	*300-600-1200-2400-4800-9600-19200-38400*
	ADEMCO AHDR16	*300-600-1200-2400-4800-9600-19200-38400*
	ENEO DLR-204	*300-600-1200-2400-4800-9600-19200-38400*
	ENEO DLR-109	*300-600-1200-2400-4800-9600-19200-38400*
	ENEO DLR-116	*300-600-1200-2400-4800-9600-19200-38400*
	ENEO MUX VBM	*1200-2400-4800-9600*
	ENEO MUX VCM	*1200-2400-4800-9600*
	JAVELIN B/N	*1200-2400-4800-9600*
	JAVELIN COL	*1200-2400-4800-9600*
	SONY DVR	*2400-4800-9600-19200*
	SONY MUX	*2400-4800-9600-19200*
	SANYO DVR	*2400-4800-9600-19200*
	SANYO MUX	*2400-4800-9600-19200*
	SP16C VIDEOTEC	*9600*

Whenever the TYPE and PROTOCOL parameters are changed, the subsequent parameters are forced to their default values (including any telemetry parameters that are incompatible with the new selections).

4.2.3.1.2 Address

This parameter is used to select the address number used to recognise the device within the installation. See the specific sections of the manual for the correct settings of these parameters (*see § 5 - VIDEO MANAGEMENT, pag.52*).

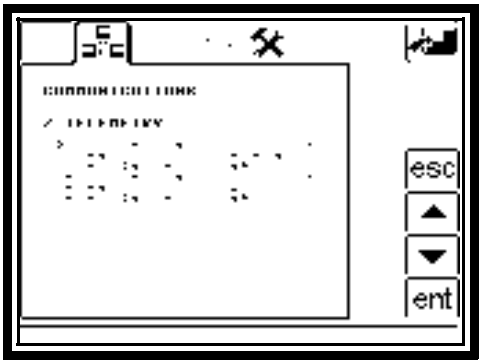
	Using the same address for more than one device connected to the system will cause faulty operation of the controls that are sent/received by the video matrix.

4.2.3.1.3 External multiplexer

This parameter is used to select a multiplexer to be connected to the matrix in cascade. It is only possible to do this when the item "Type" contains a matrix and the item "Protocol" is set to "MACRO".

4.2.3.2 Telemetry

This menu is used to set the type of "TELEMETRY" devices that will be controlled by the keyboard. There are two independent communication lines called "A" and "B".



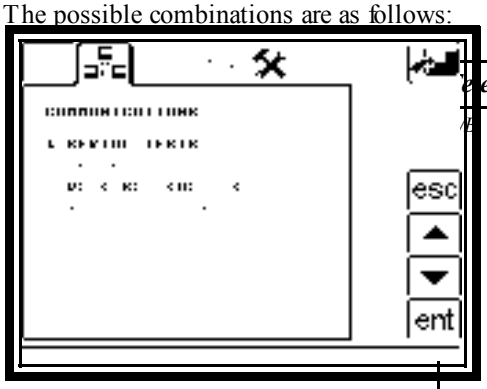
4.2.3.2.1 Connector

This parameter is used for setting the telemetry controls, whether the commands are to be sent directly to the devices connected to the telemetry A or B connectors (Parameter=Telemetry) or whether they are to be sent to the matrix and then on to the devices (Parameter=Video) (*see § 6.1 - Direct control and control using video systems, pag.95*).

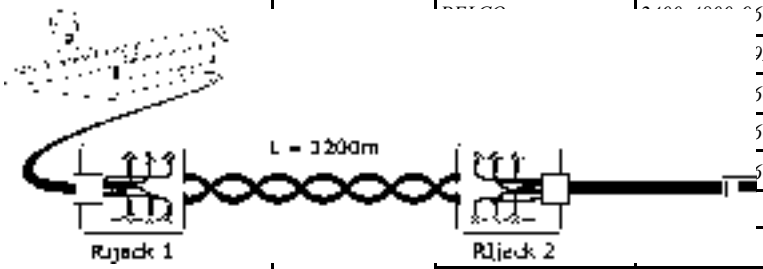
	PLEASE NOTE ◆ *For COMMUNICATIONS-VIDEO, if the PROTOCOL parameter setting is not MACRO, it is impossible to set the CONNECTOR parameter to "Video".* ◆ *If the CONNECTOR parameter has the "Video" setting it is impossible to make a setting for the baudrate parameter.* ◆ *Every time the "PROTOCOL" parameter is changed, the subsequent parameters are forced to their default values.*

4.2.3.2.2 Protocol – Baud rate

The possible combinations are as follows:

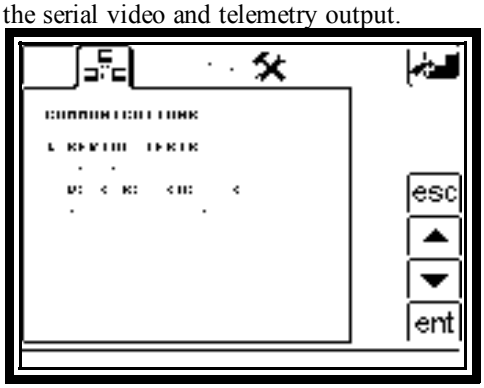


Telemetria	*Protocollo*	*Baudrate*
A	----------	----------
	ELBEX	*4800*
	ELMO	*9600*
	ENEO	*300-600-1200-2400-4800-9600-19200*
	ERNITEC	*1200-2400-4800-9600-19200-38400*
	FASTRAX	*2400-4800-9600-19200*
	JVC	*9600*
	LINXS	*1200-9600*
	MACRO	*1200-9600-19200-38400*
	PANASONIC	*2400-4800-9600-19200*
	PELCO	*2400-4800-9600-19200*
	PHILIPS	*1200-2400-4800-9600-19200-38400*
	SAMSUNG	*2400-4800-9600-19200*
	SANYO	*2400-4800-9600-19200*
	SENSORMATIC	*2400-4800-9600-19200*
	SIEMENS	*1200-2400-4800-9600-19200*
	VCL	*9600*
	VIDEOTEC	*1200-9600*

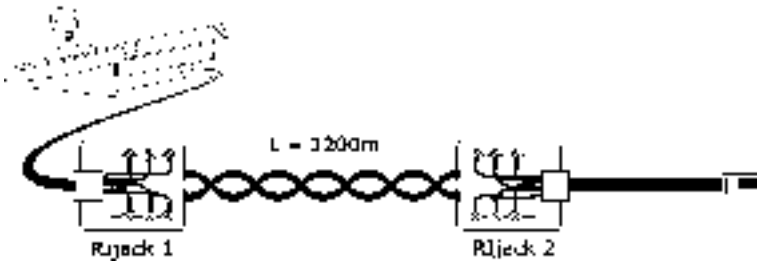


4.2.3.3 Serial tests

If it is necessary to check the keyboard communication channels, there is a simple test to check the integrity of the serial video and telemetry output.



Disconnect any devices connected to the VIDEO and telemetry A and B connectors and make the following test cable, using two telephone cables and two RJjack boxes supplied with the keyboard, then proceed with the test.



Device	RJjack1	RJjack2	Device
RS485A	*white*	*white*	*RS485A*
RS485B	*yellow*	*yellow*	*RS485B*

WARNING
Please note: this cable is different from the standard connection cable described in § 3.3 - One keyboard per line: standard connection cable, pag.16

4.2.3.3.1 Autotest procedure

Proceed as follows:

- Connect the cable to the telemetry A and B connectors.
- Make sure the display shows the message B <-------> A indicating that the two lines function correctly.

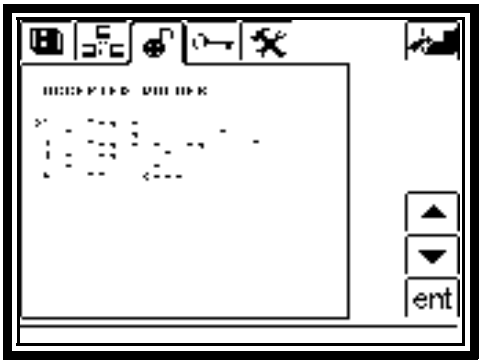
If, for example, different messages appear, such as: B <-------? A
This means there are reception problems for channel A
while channel B receives correctly

Continue with the test, repeating the procedure and connecting the cable between the telemetry A and VIDEO connectors and then connecting the cable between the telemetry B and VIDEO connectors.

For each line, A,B and V the autotest result is expressed as follows:
B ? ------- ? A : the line is not functioning and is unable to transmit or receive data
B ? ------- > A : the line is able to transmit but not receive
B < ------- ? A : the line receives but is unable to transmit
B < ------- > A : the line transmits and receives correctly.

4.2.4 Accepted values

This menu is divided into a series of submenus that are used to set up the accepted keyboard values.
Select the desired item and press the ↵ key.



4.2.4.1 Cameras, matrix and multiplexer connected locally

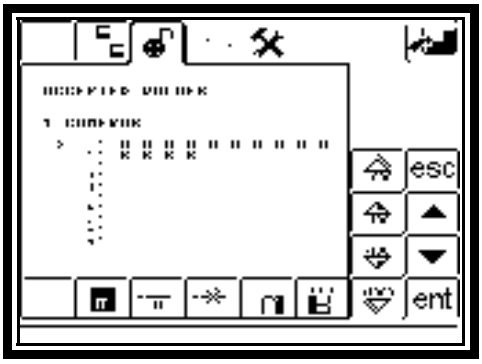
This menu is used to set up the cameras that can be selected from the keyboard.
The active camera status is indicated by the presence of the letter A or B to show that the camera is connected to telemetry A or B.(*see § 5.1 - Introduction, pag.52 e see § 4.3 - Video/telemetry control area, pag.43*).

	WARNING: If the camera present in the system is fixed (not equipped with Pan & Tilt movement), if it is to be operated it must be associated with one of the two telemetries (A or B).

4.2.4.1.1 Cameras with a matrix connection

	The screen will have this appearance only if a video matrix has been selected in the parameter COMMUNICATIONS-VIDEO_TYPE.

The menu is used to set up the cameras that can be selected by the keyboard.
The keys can be used to simultaneously activate/deactivate all the cameras on the page or on one line only, or to enter the submenu to activate individual cameras. The status of the activated camera is indicated by the presence of the letter A or B to show that the camera is connected to telemetry A or B.
On the VIDEO connector it is possible to set up the accepted values of 10000 cameras.



Exit menu key
Cursor shift key
Cursor shift key
Individual camera modification key

Keys for shifting up/down the cameras

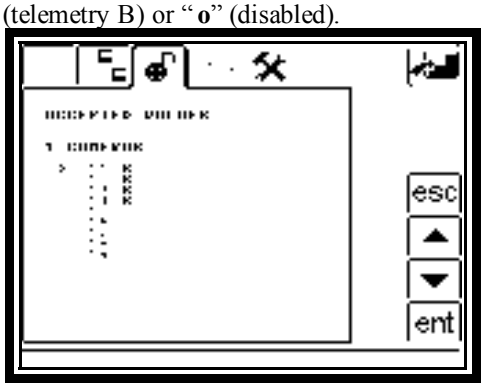
Key for deactivating all the cameras on the page
Key for activating all the cameras on the page
Key for activating the whole line corresponding to the cursor position
Key for deactivating the whole line corresponding to the cursor position
Telemetry A selection key
Telemetry B selection key

Use the or keys to select the desired telemetry and proceed to activate the cameras using the row or page keys. For activation/deactivation of individual cameras position the cursor on the desired line and press the key to enter the menu for setting individual cameras.

	Setting monitors and cameras beyond the physical limits of the connected devices will be accepted but will have no effect on the devices themselves.

4.2.4.1.2 Individual cameras with matrix connection

Position the cursor to correspond with the camera to be modified and press the key.
The letter corresponding to the number will change, showing either the letter "**A**" (telemetry A), "**B**" (telemetry B) or "**o**" (disabled).

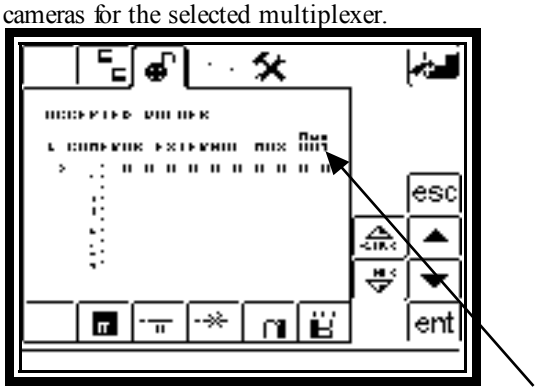


Exit menu key
Cursor shift key
Cursor shift key
Camera modification key

4.2.4.1.3 Cameras with multiplexer connection

	The screen will have this appearance only if a multiplexer has been selected in the parameter COMUNICATIONS-VIDEO_TYPE.

This menu is used to set up the cameras that can be selected by the keyboard.
The keys can be used to simultaneously activate/deactivate all the cameras on the page, on one line only or to enter the submenu to activate individual cameras. The status of the activated camera is indicated by the presence of the letter A or B to show that the camera is connected to telemetry A or B.
On theVIDEO connector it is possible to set up the accepted values of 10000 cameras.
The keyboard can be used to operate up to 100 multiplexers, each equipped with 100 cameras.
In this case the page graphics appear as follows and a reference followed by a number is used to set up the cameras for the selected multiplexer.



Exit menu key
Cursor shift key
Cursor shift key
Individual camera modification key

Keys for shifting up/down the multiplexers

Selected multiplexer number

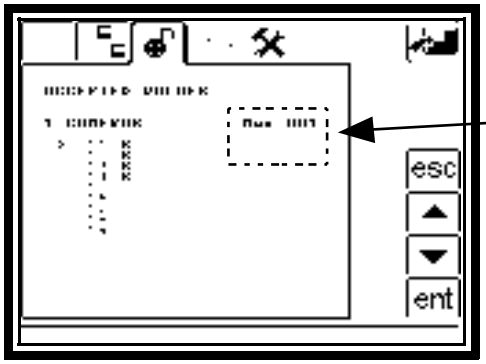
Key for deactivating all the cameras on the page
Key for activating all the cameras on the page
Key for activating the whole line corresponding to the cursor position
Key for deactivating the whole line corresponding to the cursor position
Telemetry A selection key
Telemetry B selection key

Use the or keys to select the desired telemetry and proceed to activate the cameras using the row or page keys. To activate/deactivate individual cameras position the cursor on the desired line and press the key to enter the menu for setting individual cameras.

	Setting monitors and cameras beyond the physical limits of the connected devices will be accepted but will have no effect on the devices themselves.

4.2.4.1.4 Cameras with connection to multiplexer

Position the cursor to correspond with the camera to be modified and press the key. The letter corresponding to the number will change, showing either the letter "**A**" (telemetry A), "**B**" (telemetry B) or "**o**" (disabled).



Selected multiplexer number

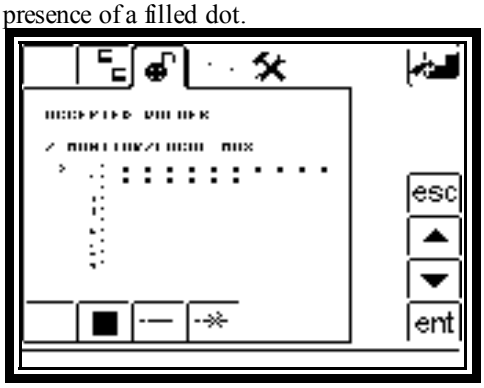
Exit menu key
Cursor shift key
Cursor shift key
Camera modification key

4.2.4.2 Monitor (matrix and multiplexer connected locally)

This menu is used to set up the monitors or multiplexers that can be selected.

4.2.4.2.1 Monitor (connection with matrix)

If a matrix is connected on the VIDEO connector it is possible to set up the accepted values of 100 monitors. The menu is used to determine the monitors that can be selected by the keyboard.
The keys can be used to simultaneously activate/deactivate all the monitors on the page or a single line, or to enter the submenu to activate individual monitors. The status of the activated monitor is indicated by the presence of a filled dot.



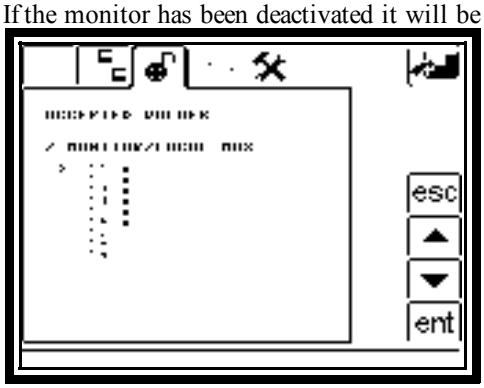
Exit menu key
Cursor shift key
Cursor shift key
Individual monitor modification key

Key for deactivating all the monitors on the page
Key for activating all the monitors on the page
Key for activating all the monitors on the line selected by the cursor
Key for deactivating all the monitors on the line selected by the cursor

	Setting monitors and cameras beyond the physical limits of the connected devices will be accepted but will have no effect on the devices themselves.

4.2.4.2.2 Individual monitors (connection with matrix)

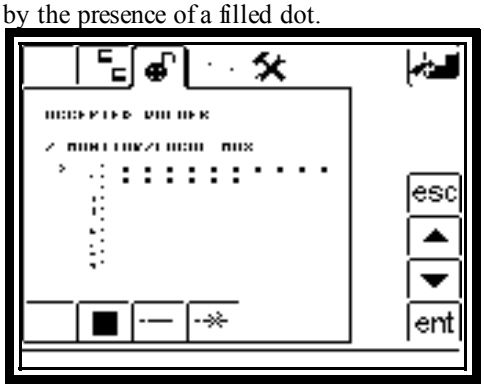
Position the cursor to correspond with the monitor to be modified and press the key.
If the monitor has been deactivated it will be activated and vice versa.



Exit menu key
Cursor shift key
Cursor shift key
Activation/deactivation key

4.2.4.2.3 Multiplexer (direct connection with multiplexer)

If a multiplexer connection on the VIDEO connector has been chosen it is possible to activate up to 100 multiplexers individually so that they can be selected by the keyboard.
The keys can be used to simultaneously activate/deactivate all the multiplexers on the page or a single line, or to enter the submenu to activate individual multiplexers. The status of the activated multiplexer is indicated by the presence of a filled dot.



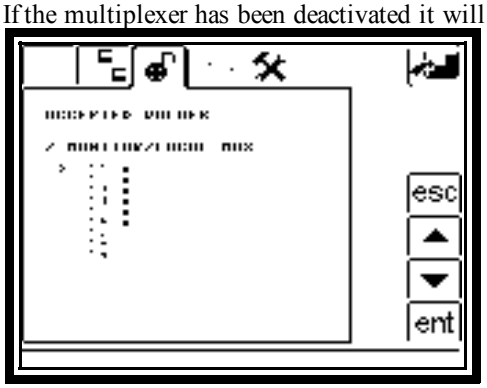
Exit menu key
Cursor shift key
Cursor shift key
Individual multiplexer modification key

Key for deactivating all the multiplexers on the page
Key for activating all the multiplexers on the page
Key for activating all the multiplexers on the line selected by the cursor
Key for deactivating all the multiplexers on the line selected by the cursor

	Setting monitors and cameras beyond the physical limits of the connected devices will be accepted but will have no effect on the devices themselves.

4.2.4.2.4 Individual multiplexers (direct connection with multiplexer)

Position the cursor to correspond with the multiplexer to be modified and press the key.
If the multiplexer has been deactivated it will be activated and vice versa.

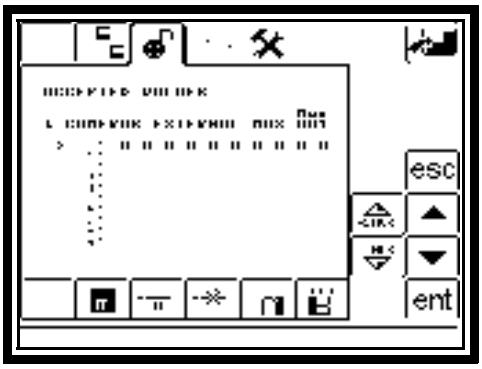


Exit menu key
Cursor shift key
Cursor shift key
Monitor activation/deactivation key

4.2.4.3 Multiplexer cameras

This menu is used to set the cameras that can be selected by the keyboard.
The keys can be used to simultaneously activate/deactivate all the cameras on the page, on one line only or to enter the submenu to activate individual cameras.
The status of the activated camera is indicated by the presence of the letter A or B to show that the camera is connected to telemetry A or B.

	WARNING: If the camera present in the system is fixed (not equipped with Pan & Tilt movement), if it is to be operated it must be associated with one of the two telemetries (A or B).



Exit menu key
Cursor shift key
Cursor shift key
Individual camera modification key

Keys for shifting up/down the cameras
.
.

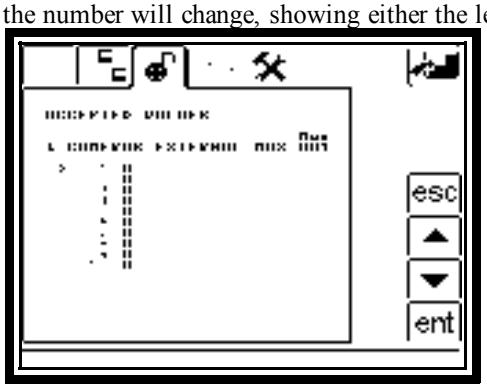
Key for deactivating all the cameras on the page
Key for activating all the cameras on the page
Key for activating the whole line corresponding to the cursor position
Key for deactivating the whole line corresponding to the cursor position
Telemetry A connector selection key
Telemetry B connector selection key

Use the or keys to select the connector to which the cameras are connected and proceed to activate the cameras using the row or page keys. To activate/deactivate individual cameras press the key .

	For connection with devices other than the SW128/16 matrix, setting monitors and cameras beyond the physical limits of the connected devices will be accepted but will have no effect on the devices themselves.

4.2.4.3.1 Individual Multiplexer cameras

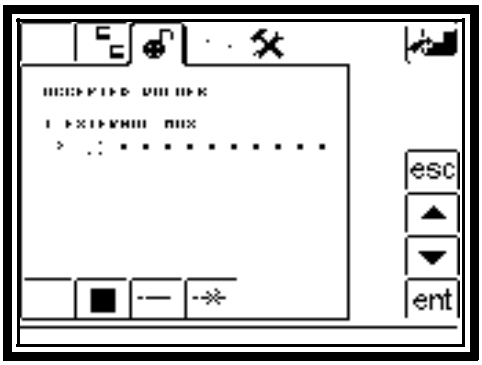
Position the cursor on the number of the camera to be modified. Press the key. The letter corresponding to the number will change, showing either the letter "**A**" (telemetry A), "**B**" (telemetry B) or "**o**" (disabled).



Exit menu key
Cursor shift key
Cursor shift key
Key for modifying the camera corresponding to the position of the cursor

4.2.4.4 External multiplexer

This menu is used to set up the multiplexers that can be selected by the keyboard (max.16).
The status of the activated multiplexer is shown by the presence of a filled dot.

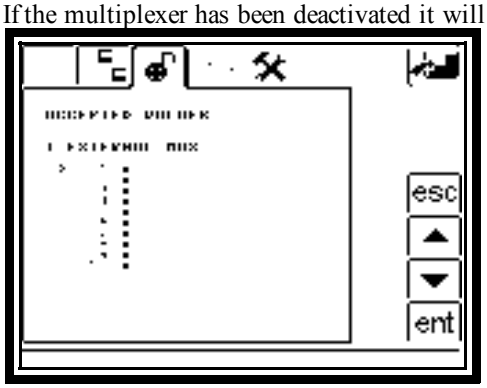


Key for deactivating all the multiplexers on the page
Key for activating all the multiplexers on the page
Key for activating all the multiplexers on the line selected by the cursor
Key for deactivating all the multiplexers on the line selected by the cursor

	Setting multiplexers and cameras beyond the physical limits of the connected devices will be accepted but will have no effect on the devices themselves.

4.2.4.4.1 Individual setting for external multiplexer

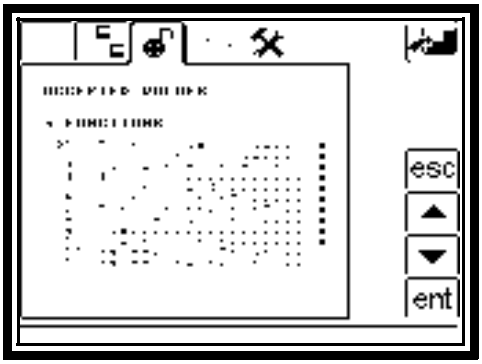
Position the cursor to correspond with the multiplexer to be modified and press the key.
If the multiplexer has been deactivated it will be activated and vice versa.



Exit menu key
Cursor shift key
Cursor shift key
Key for activating/deactivating the multiplexer corresponding to the cursor position

4.2.4.5 Functions

Position the cursor to correspond with the camera to be modified and press the key. If the function has been deactivated it will be activated and vice versa.



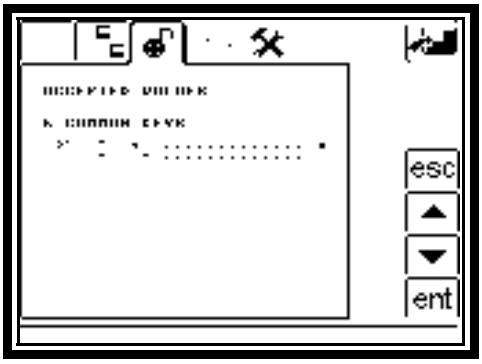
	These parameters directly influence the screen display of the commands in the various menus. For example, if the "AUTOPAN/SCAN" parameter is not enabled the operator will not be allowed to enter the corresponding menus and there will be a message saying "Function disabled".

PARAMETER	*FUNCTION*
Matrix/mux setup	*Enables the keyboard to carry out the functions to modify the parameters for the matrix/multiplexer connected to the keyboard.*
Telemetry setup	*Enables the keyboard to carry out the functions to modify the parameters for the dome or receiver connected to the keyboard.*
Autopan/Scan/Patrol	*Enables the keyboard to carry out the automatic dome movement functions*
Joystick	*Enables the keyboard to accept movement controls from the joystick.*
Up/Dw camera	*Enables the controls to move up and down the cameras (only for matrixes)*
Change receiver No.	*Enables the option to change the association between camera and dome/receiver address.*
Change monitor No.	*Enables the option to select the monitors.*
Zoom/Focus/Iris	*Enables the option to change the values of ZOOM, FOCUS and IRIS.*

PARAMETER	*FUNCTION*
Aux	*Enables the option to operate on the auxiliary relays of the dome/receiver*
Wiper/Washer	*Enables the option to enable the WIPER and WASHER functions on the dome/receiver*
GRAPH Environment	*Enables the option to enter the GRAPH environment loaded in the device*
GRAPH Environment Only	*Enables the option to activate the GRAPH environment when the DCT keyboard is powered.*

4.2.4.6 Common keys

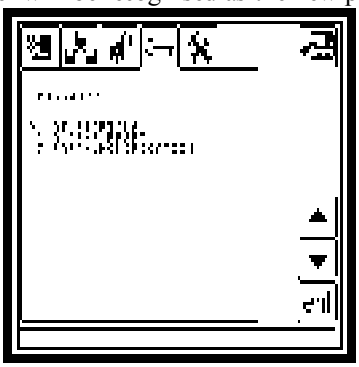
Position the cursor to correspond with the function to be modified and press the key. If the function has been deactivated it will be activated and vice versa..



PARAMETER	*FUNCTION*
MACRO	*In the MAIN menu, enables the keyboard to show the key for entering the MACRO functions.*
FOCUS	*In the MAIN menu, enables the keyboard to show the controls linked with the FOCUS function in the foreground at all times.*

4.2.5 Password

This menu is used to make the settings for the three passwords used by the keyboard to prevent use, parameter modification and alarm reset by unauthorised personnel.
Position the cursor next to the item to be modified and press the key.
The display will request the insertion of a 5-digit number and its subsequent reconfirmation.
If the two values are the same, the number will be recognised as the new password.

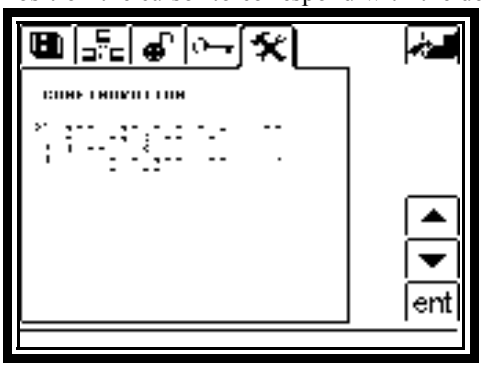


PARAMETER	*FUNCTION*
Password at starting	*This password is requested every time the keyboard is switched on.*
Password for alarm reset	*This password is requested before resetting matrix alarms*
Password for changing parameters	*This password is requested before allowing access to the SETUP menu.*

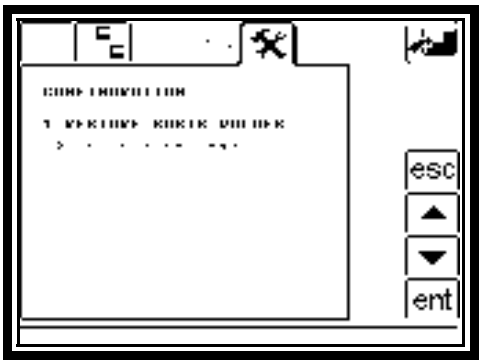
If the value 00000 is inserted, this will disable requirement of the corresponding password.
The keyboard is programmed in the factory with all passwords set to "00000".
Warning: If the keyboard basis values are restored (see § 4.2.6.1 - Restore basis values, pag.37) all password will take the value"00000"

4.2.6 Configuration

Position the cursor to correspond with the desired item and press the key.



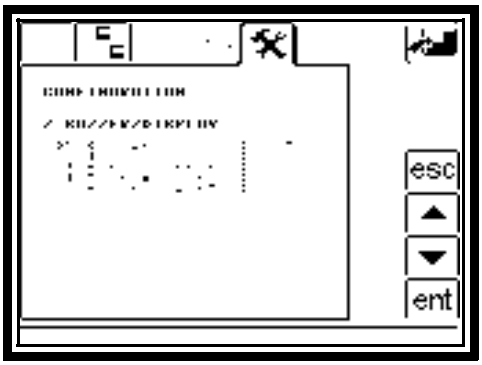
4.2.6.1 Restore basis values



	WARNING *This operation will completely and definitively delete any previously made setting and will return the keyboard to the factory configuration.*

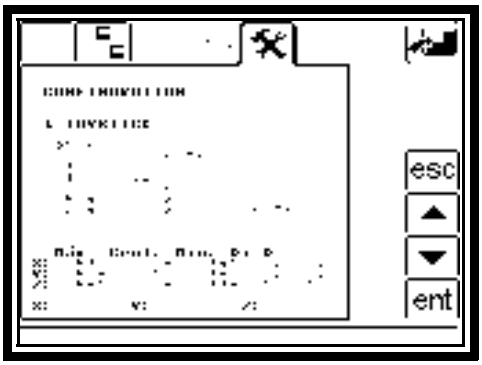
To restore the keyboard basis values press the key.
The display will show the deletion in progress and at the end of the operation the system will offer the CONFIGURATION menu again.
Calibrate the joystick as described in the corresponding section (*see § 4.2.6.3 - Joystick, page 38*) and calibrate the touch screen as instructed in the corresponding section (*see § 4.2.6.5 - Calibrating the touch screen, page 39*).

4.2.6.2 Buzzer



PARAMETER	*FUNCTION*
Key pressed	*Used to set the buzzer volume when the keys are pressed. There are two values: MIN (minimum)and MAX (maximum).*
Joystick	*Enables/disables a slight sound every time the joystick is moved*
Serial error	*Enables/disables the buzzer if there is a serial communication error.*
Matrix alarm	*Enables/disables the buzzer if there is a matrix alarm.*
Power saving	*Enables/disables timed power saving for the backlit display*

4.2.6.3 Joystick

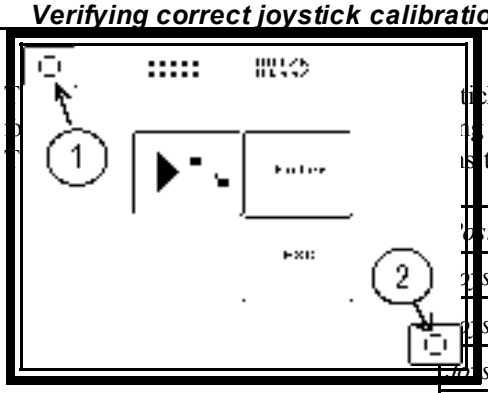


The action to be carried out will be indicated by the system, by means of the cursor position which will give a step-by-step indication of the next action to carry out. On entering the menu, the cursor is in position 1.

Follow the procedure, through all the stages:
1 – Release the joystick and press the key
2 – Move the joystick as far to the right as possible, keep it in this position and press the key
3 - Move the joystick as far to the left as possible, keep it in this position and press the key
4 - Move the joystick as far up as possible, keep it in this position and press the key
5 - Move the joystick as far down as possible, keep it in this position and press the key
6 – Turn the zoom knob as far to the left as possible, keep it in this position and press the key
7 - Turn the zoom knob as far to the right as possible, keep it in this position and press the key

WARNING
If a mistake is made during calibration, the operation can be either completely or partially repeated, taking care to position the cursor at the required calibration stage using the up/down keys.

4.2.6.4 Verifying correct joystick calibration



tick, see the last line on the page where there are three sets of script
g to the position taken by the joystick.
s taken by the joystick

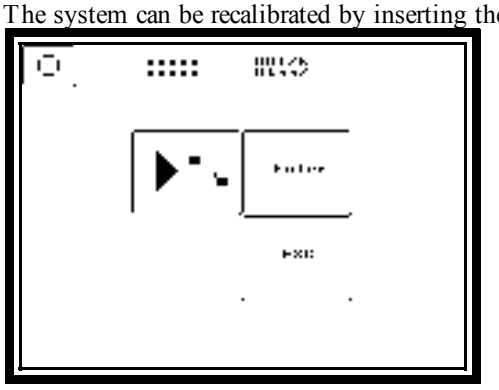
sition of joystick	*X*	*Y*	*Z*
ystick released	*7*	*7*	*7*
stick to far right	*14*	*7*	*7*
stick to far left	*0*	*7*	*7*
Joystick completely up	*7*	*14*	*7*
Joystick completely down	*7*	*0*	*7*
Joystick zoom to far left	*7*	*7*	*14*
Joystick zoom to far right	*7*	*7*	*0*

At intermediate positions, the values will take on intermediate values between the departure and arrival positions.

4.2.6.5 Calibrating the touch screen

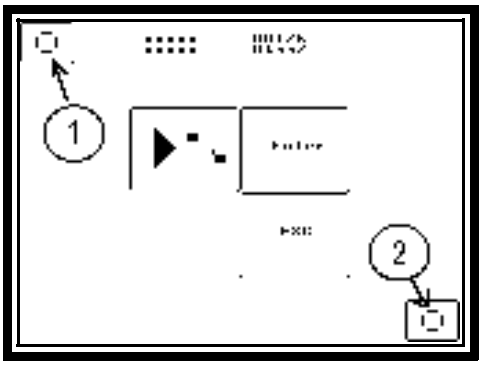
	WARNING *Only carry out this procedure if the display has been replaced or if there are obvious faults in its behaviour when the keys are pressed..* *To verify correct touch screen operation use the "Touch Test" procedure (see § 4.2.6.6 - Touch test, pag.42).*

Calibrating the touch screen makes it possible to compensate for possible shifts in the sensitive surface due to ageing or if it has to be replaced.
The system can be recalibrated by inserting the coordinates of the two corners of the display.



	WARNING *During this procedure the system enters a particular mode in which the touch screen is slowed down when reading, and recognition of the three central manoeuvre keys may prove to be more difficult.*

4.2.6.5.1 How to calibrate the surface



Key for increasing the position of the reference

Data confirmation key

Exit menu key

	WARNING *Do not use abrasive sponges or sharp objects on the sensitive surface of the display*

Calibration procedure:

1 – On entering the menu the system will show the calibration viewfinder positioned in position **1**

2 – Using an object with a sufficiently fine, round point press the touch screen in the centre of the viewfinder and wait until the values appearing in the new coordinate position take on values from 300-600 for the first number and 3400-3600 for the second number. Wait until the values stabilise sufficiently (only the tens change).

3 – If the value falls within the suggested range press the ENTER key to confirm acquisition of the new point and then SAVE key. The new coordinates will disappear to be replaced by dashes, indicating their acceptance.

Press the key and the system will show the calibration viewfinder in the next position.

Return to point 2 in the procedure above, referring to the following table:

Position	*First number*	*Second number*
1	*300-600*	*3400-3600*
2	*3400-3600*	*500-1000*

When the second position has also been confirmed press the key. The system will then save and reconstruct the new recognition coordinates for the touch screen.

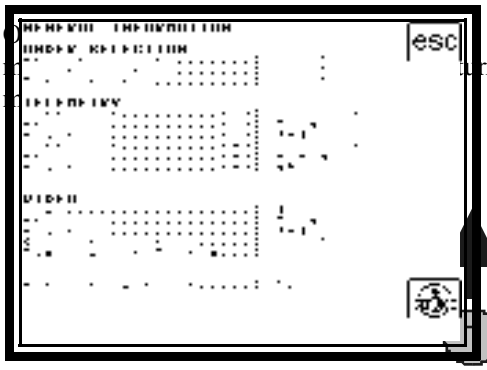
If there is a calibration error the system will not function and it will be necessary to force it to the default values as indicated in the related section (*see § 4.2.6.5.2 - Forcing the touch screen to the default values, pag.41*).

4.2.6.5.2 Forcing the touch screen to the default values

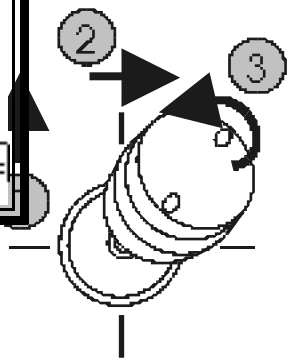
This procedure is used to force the touch screen to the default values to allow its fine calibration.

Proceed as follows:

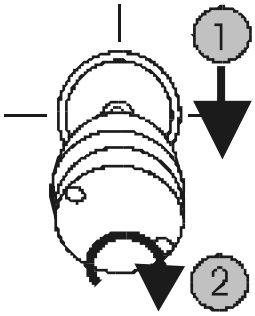
1 – Disconnect all the devices connected to the keyboard
2 – Remove the power supply cable
3 – Position DIP SWITCH 1 to the ON position
4 – Power the keyboard and wait for the following screen to show



5 – Turn the zoom anti-clockwise as shown in the drawing, until the

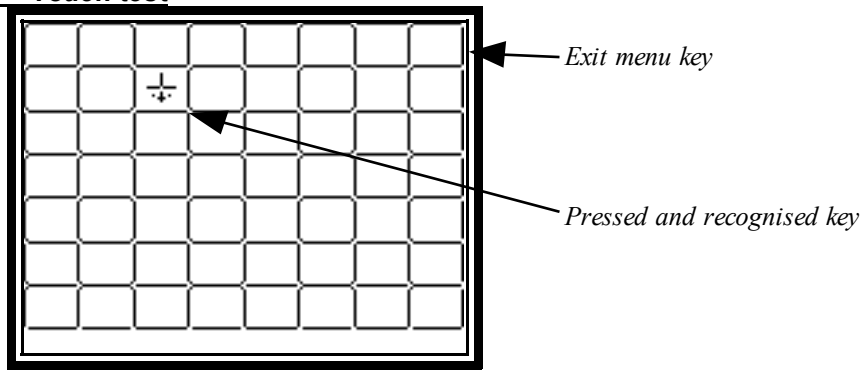


It is possible to directly select the menu for fine calibration of the touch screen by moving the joystick downwards and turning the zoom clockwise as shown in the drawing, or by restarting the keyboard, setting DIP SWITCH 1 to the OFF position.



Proceed as instructed in the particular section (*see § 4.2.6.5 - Calibrating the touch screen, pag.39).*

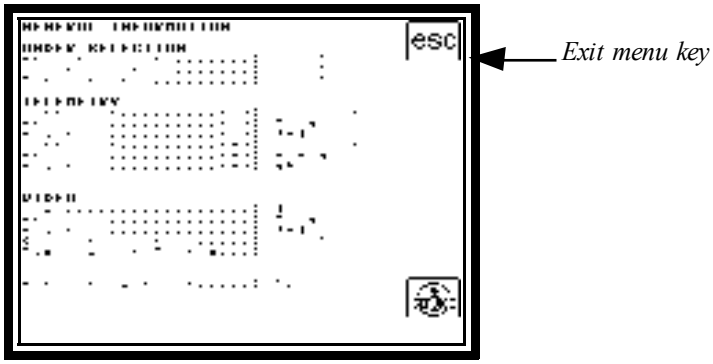
4.2.6.6 Touch test



The purpose of this menu is to test whether the touch screen is calibrated correctly.
If any key in the grid is pressed, once it has been recognised its graphics will change to show a viewfinder.
To exit the menu keep the top right button pressed until the system shows the previous menu.

4.2.7 System Information and service menu

Pressing the key from the MAIN menu will enter the following general summary screen showing configuration status and the references for the selected device.



Pressing the key will enter the screen containing the system installer's information.

4.3 Video/telemetry control area

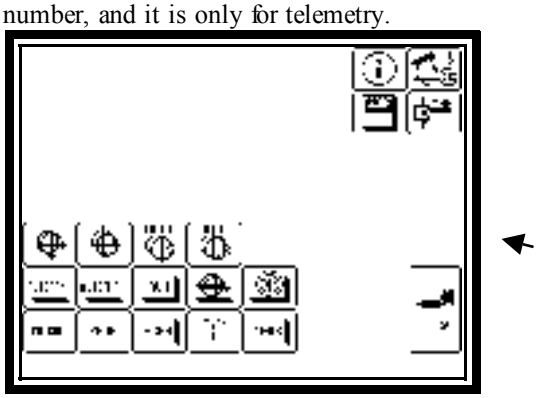
The appearance of this area will differ according to the chosen configuration and the device being selected (*see § 5.1.1 - Video: fundamental concepts, pag.52*).

There are four distinct situations:

- no device connected to the VIDEO connector
- one matrix connected to the VIDEO connector
- one multiplexer connected to the VIDEO connector
- one matrix connected to the VIDEO connector and a multiplexer connected in cascade to the matrix

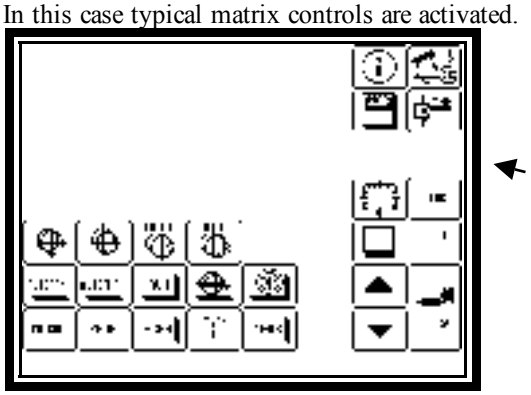
4.3.1 No matrix or multiplexer connected

In this case the possible controls are reduced to a minimum and can only be used to change the camera number, and it is only for telemetry.



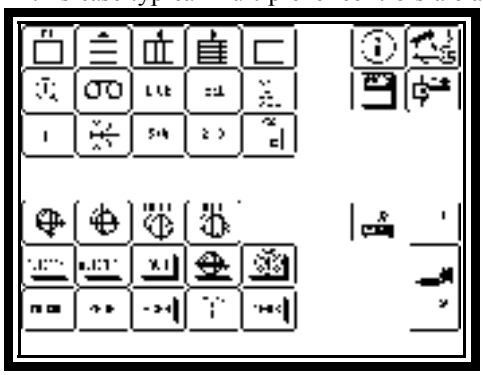
4.3.2 One matrix connected

In this case typical matrix controls are activated.



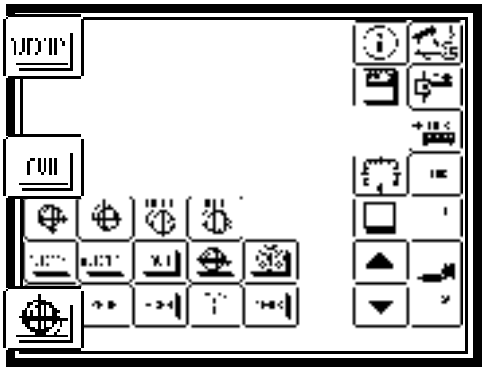
4.3.3 One multiplexer connected

In this case typical multiplexer controls are activated.

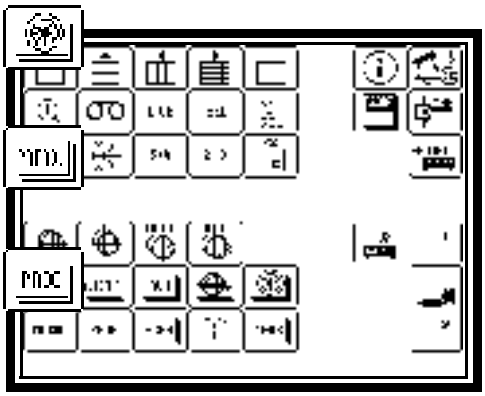


4.3.4 e matrix with a multiplexer connected in cascade

In this case the activated controls are related to the device being controlled at that instant.

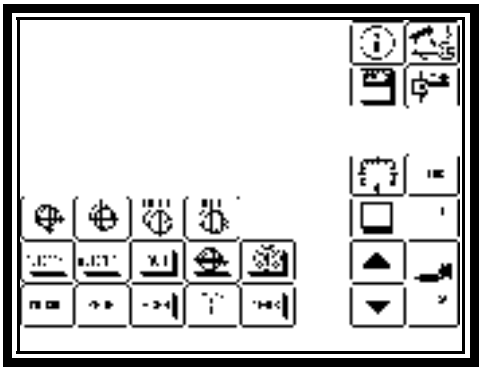


Key for passing from matrix to multiplexer



Key for passing from multiplexer to matrix

4.4 Control menu area



AUTOPAN MENU
Used to enter the AUTOPAN function activation menu.
(*see § 4.4.1 - AUTOPAN MENU, pag.46*)

AUTOFLIP MENU
Used to enter the AUTOFLIP function activation menu.
(*see § 4.4.2 - AUTOFLIP MENU, pag.46*)

AUX MENU
Used to enter the AUX function activation menu i.e. control of the auxiliary relays present in the controlled device.
(*see § 4.4.2 - AUTOFLIP MENU, pag.46*)

FOCUS MENU
Used to enter the control menu for the FOCUS functions.
(*see § 4.4.2 - AUTOFLIP MENU, pag.46*)

IRIS MENU
Used to enter the control menu for the IRIS functions.
(*see § 4.4.5 - IRIS MENU, pag.46*)

PATROL MENU
Used to enter the PATROL function control menu.
(*see § 4.4.6 - PATROL MENU, pag.46*)

PROG MENU
Used to enter the menu to set up the devices controlled by the PRESET functions, DOME set up, VIDEO set up and any specific function keys for the domes/receivers.
(*see § 4.4.7 - PROG MENU, pag.47*)

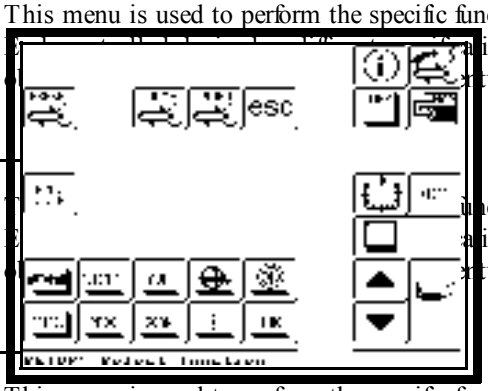
SCAN MENU
Used to recall the numeric keypad for recalling the position that was stored previously using the PRESET function
(*see § 4.4.8 - SCAN MENU, pag.49*)

WIPER/WASHER MENU
Used to enter the activation menu for the WIPER and WASHER functions.
(*see § 4.4.9 - WIPER/WASHER MENU, pag.49*)

MACRO KEYS MENU
Used to enter the activation menu for the programmed control macros.
(*see § 4.4.10 - MACRO KEYS MENU, pag.50*)

4.4.1 AUTOPAN MENU

This menu is used to perform the specific function.



ions. Refer to the specific controls for the individual devices to
tuality of particular operating modes and settings.

4.4.2

nction.

ions. Refer to the specific controls for the individual devices to
tuality of particular operating modes and settings.

4.4.3

This menu is used to perform the specific function.

ntrolled device has different specifications. Refer to the specific controls for the individual devices to further information regarding the eventuality of particular operating modes and settings.

4.4.4 CUS MENU

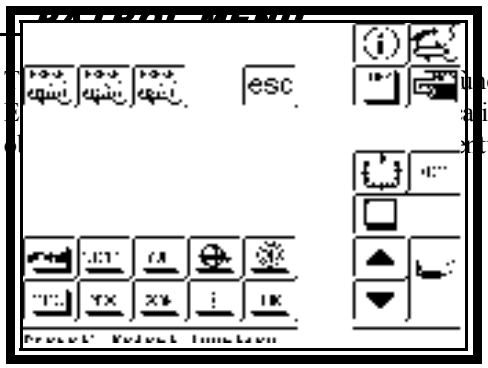
This menu is used to perform the specific function.

ntrolled device has different specifications. Refer to the specific controls for the individual devices to further information regarding the eventuality of particular operating modes and settings.

4.4.5 S MENU

This menu is used to perform the specific function.
Each controlled device has different specifications. Refer to the specific controls for the individual devices to obtain further information regarding the eventuality of particular operating modes and settings.

4.4.6

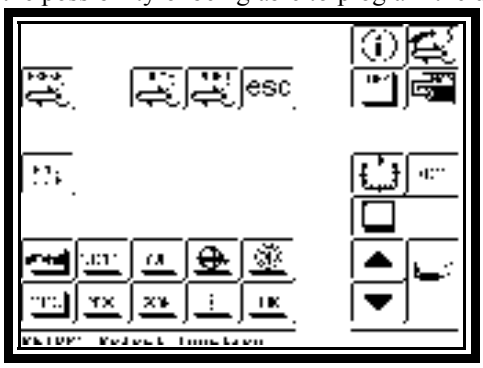


nction.

ions. Refer to the specific controls for the individual devices to
tuality of particular operating modes and settings.

4.4.7 PROG MENU

This menu is used to enter Setup for the dome/receiver and the matrixes. The presence of the icon is linked to the possibility of being able to program the device.



PRESET SUBMENU
Recalls the specific menu (*see § 4.4.7.1 - Preset, pag.47*).

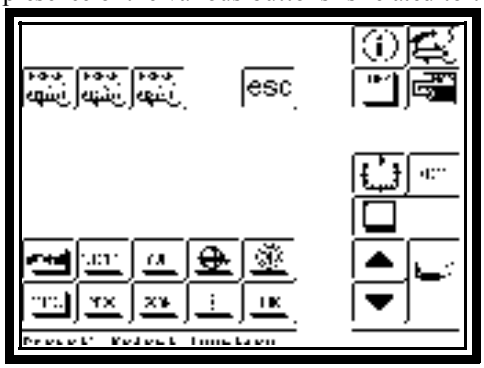
SETUP DOME
Recalls the specific menu (*see § 4.4.7.1 - Preset, pag.47*).

SETUP VIDEO MATRIXES
Recalls the specific menu(*see § 5.21 - Matrix Setup , pag.93*).

FUNCTION KEYS
Recalls the specific menu (*see § 6 - TELEMETRY, pag.95*).

4.4.7.1 Preset

In the general Preset menu there are one or more buttons for performing particular Preset functions. The presence of the various buttons is related to the type of active device at that instant.



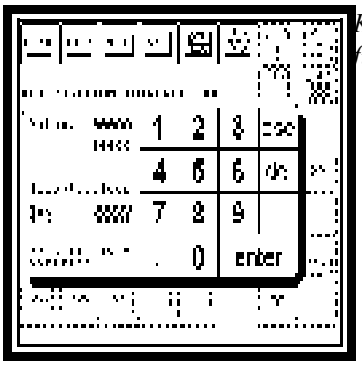
MOD PRESET
Menu for adding/correcting a Preset position
Recalls the specific menu (*see § 4.4.7.1.1 - Change Preset, pag.48*).

CAN PRESET
Menu for deleting a Preset position
Recalls the specific menu (*see § 4.4.7.1.2 - Cancel Preset, pag.48*).

DEL PRESET
Menu for deleting all Preset positions
Recalls the specific menu (*see § 4.4.7.1.3 - Delete Preset, pag.49*).

4.4.7.1.1 Change Preset

The change Preset menu is used to store, in the controlled device, the various positions to be taken by the dome/receiver.
Each position is associated with a number so that when the operator uses the SCAN control for recall, he can position the dome/receiver at the previously stored point..
The available number of storage positions depends on the controlled device. To verify the limits of the devices present in your system, see the sections referring to the connected devices (*see § 6 - TELEMETRY, pag.95*).



Keys for directly recalling specific functions from this menu

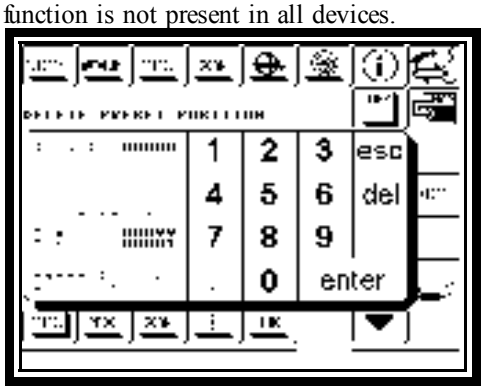
Procedure for inserting a Preset position:

- position the camera in the desired position using the other available functions in the top of the display if necessary
- insert a value within the maximum and minimum limits shown on the display and confirm with the ENTER key

To insert other positions or to change a previously inserted position, repeat the procedure from the beginning

4.4.7.1.2 Cancel Preset

The cancel Preset menu is used to delete a single Preset position stored in the controlled device. This type of function is not present in all devices.

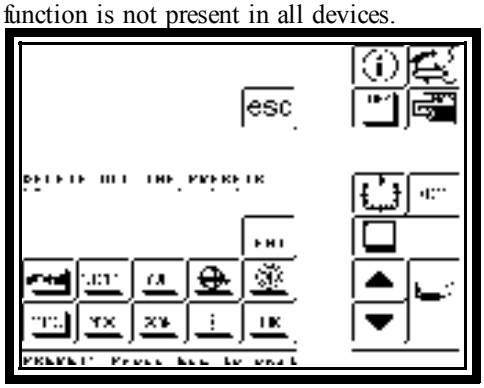


Procedure for deleting a Preset position:

- insert a value within the maximum and minimum limits shown on the display and confirm with the ENTER key

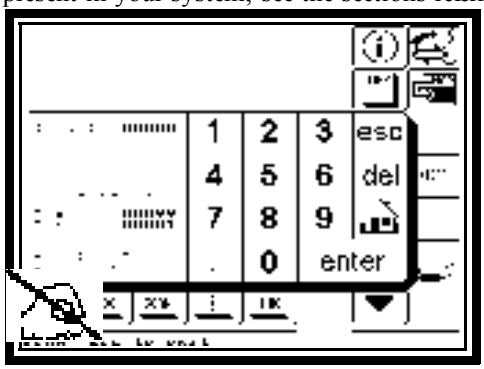
4.4.7.1.3 Delete Preset

The Delete Preset menu is used to delete all the Preset positions stored in the controlled device. This type of function is not present in all devices.



4.4.8 SCAN MENU

The SCAN menu is used to position the controlled device at one of the various positions that are stored using the PRESET function.
The available number of storage positions depends on the controlled device. To verify the limits of the devices present in your system, see the sections referring to the connected devices (*see § 6 - TELEMETRY, pag.95*).



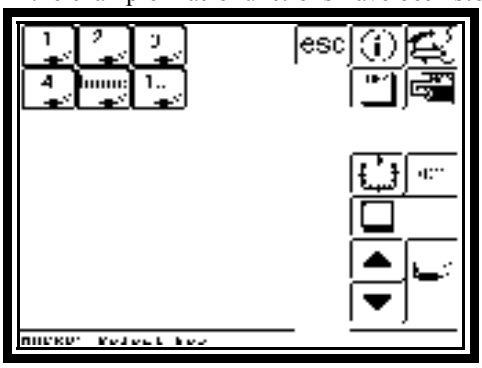
4.4.9 WIPER/WASHER MENU

This menu is used to perform the specific function.
Each controlled device has different specifications. Refer to the specific controls for the individual devices to obtain further information regarding the eventuality of particular operating modes and settings.

4.4.10 MACRO KEYS MENU

The macro keys are special keys that constitute a quick way of carrying out one or more functions by pressing a single key.
It is possible to set the key position, function and image. Macro keys are programmed using the Personal Computer and the reader should refer to the corresponding manual for details.

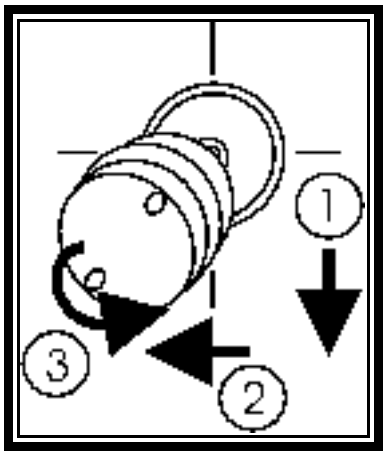
In the example macro functions have been stored in 3 keys.



4.5 Direct control area

The direct control area occupies a particular part of the MAIN menu screen where the controls that are normally present in the "Control menu area" submenus can be shown and kept permanently active.
At the moment it is only possible to enable the Focus menu.
To display the main Focus controls it is necessary to enable the function (*see § 4.2.4.6 - Common keys, pag.35*).
When this operating mode is enabled the Focus Menu key in the MAIN menu is disabled.

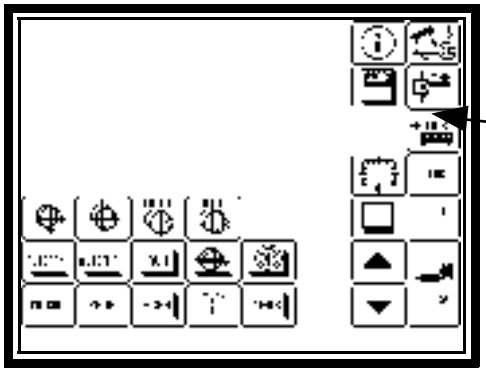
	The controls present are related to the type of active device at that instant. Refer to the specific controls for the individual devices to obtain further information regarding the eventuality of particular operating modes and the related settings.



4.6 GRAPH Environment Area

The GRAPH environment consists of a series of screens inside which it is possible to insert a number of keys. The user is free to choose the appearance (e.g. the graphics, ideograms, trademarks, etc.), the key functions and the position in the screen.
These advantages mean it is possible to create a customised environment within the DCT making it possible to resolve particular situations during use, to simplify use or limit use to specific activities.
This freedom is expressed as the possibility of managing 30 graphics pages with 40 keys each.
The graphics of these 30 pages are represented by 320x240 pixel format images.
The keys can perform one or more of the most frequently used functions including jumping pages and exiting the GRAPH environment.
This environment is programmed using the Personal Computer and the reader should refer to the corresponding manual for details.

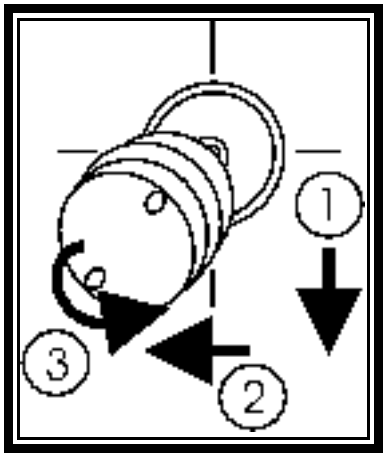
The MAIN menu is entered using two keys.
The first is used to enter the main page while the second re-enters the last active page.
The GRAPH environment keeps the characteristics of the "traditional" working method so that the last line of the display still acts as the line supplying information about the controls that have been sent and about the active device (matrix or multiplexer) and the active camera .



GRAPH Environment Area

4.6.1 Exit from "GRAPH Environment Only"

In case of setting the "GRAPH Environment Only" option (*see § 4.2.4.5 - Functions, pag.34*) this function can be deleted setting the dip-switch 1 (*see § 2.5 - DIP switch, pag.12*) at ON, switch the keyboard off and then on and move the joystick as shown in the example:



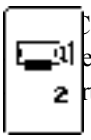
5 VIDEO MANAGEMENT

5.1 Introduction

The back of the keyboard is provided with a VIDEO connector to control the video devices. It is necessary to set up both the keyboard and the controlled device appropriately, because the same communication protocol and communication rate (baudrate) should be selected for each of them.
If these parameters are configured incorrectly communication between the devices is impossible.

The specifications of the various controllable devices differ according to the model and are given in the following pages of this manual:

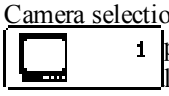
5.1.1 Video: fundamental concepts



CT keyboard is used for two fundamental types of operation to control the video signal:
ecting a camera on the active monitor
rting a preset switching sequence on the active monitor

All operations requested by the keyboard refer to the active monitor, which is always indicated on the display.

Camera selection is subject to the configuration of the accepted cameras. If a camera has not been accepted the

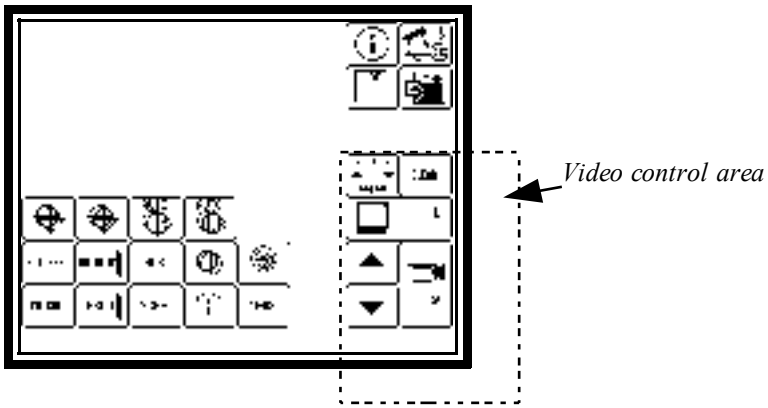


pt will give rise to an error message.
ll functions are accepted by the various video devices (switchers and matrixes). If an unacceptable function is requested for a video device, an error message will warn the operator that it is impossible to carry out the command.
The DCT keyboard is able to control various types of systems and therefore the appearance of the video/telemetry control area will differ according to the chosen configuration and the device under selection.

re three distinct situations:
atrix connected to the VIDEO connector

- a multiplexer connected to the VIDEO connector
- a matrix connected to the VIDEO connector and a multiplexer/DVR connected in cascade to the matrix

5.1.1.1 Matrix connected to the video connector



CAMERA
Used to select the active camera.
Only accepted cameras can be recalled (*see § 4.2.4.1.1 - Cameras with a matrix connection, pag.27*).

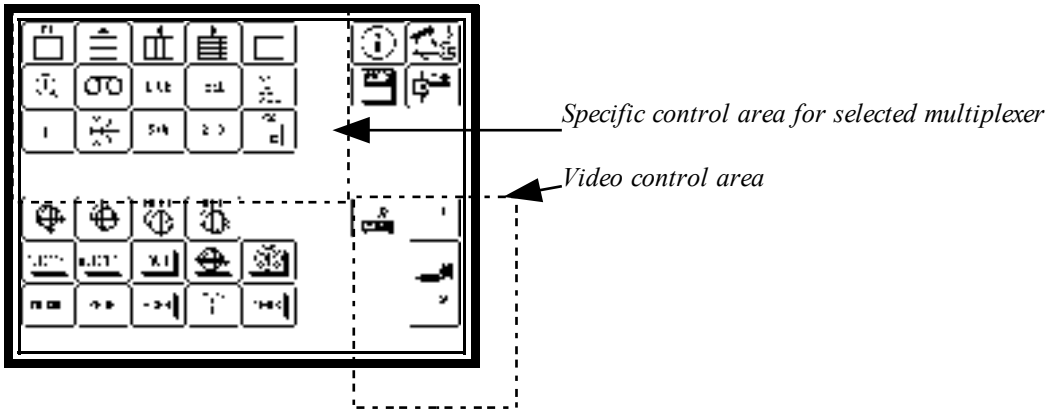
MONITOR
Used to select the active monitor.
Only accepted monitors can be recalled (*see § 4.2.4.2.1 - Monitor (connection with matrix) , pag.30*).

UP/DOWN CAMERA
Used to view the preceding or subsequent camera in the matrix sequence.

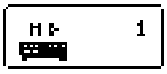
START AUTOMATIC SEQUENCE
Activates the automatic matrix sequence for the active monitor.

CLEAR
Used to acknowledge matrix alarms.

5.1.1.2 Multiplexer connected to the video connector



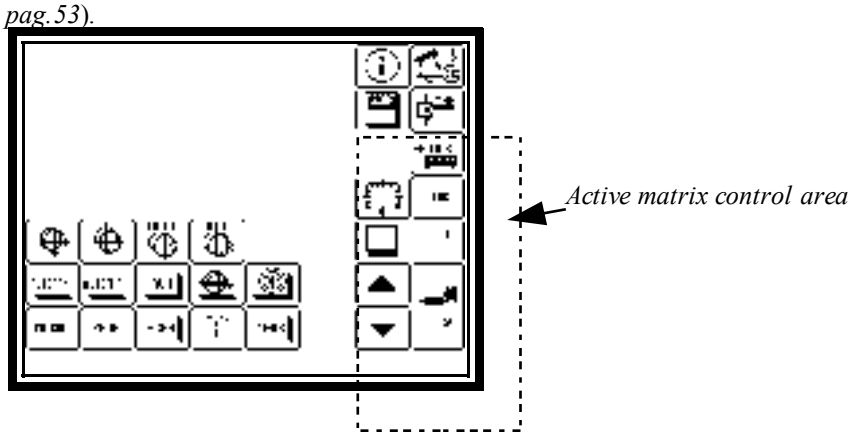
CAMERA
Used to select the active camera.
Only accepted cameras can be recalled (*see § 4.2.4.1.4 - Cameras with connection to multiplexer, pag.30*).



MULTIPLEXER
Used to select the active multiplexer.
Only accepted multiplexers can be recalled (*see § 4.2.4.2.3 - Multiplexer (direct connection with multiplexer), pag.31*).
This control only makes sense if the multiplexer is identified by an address.

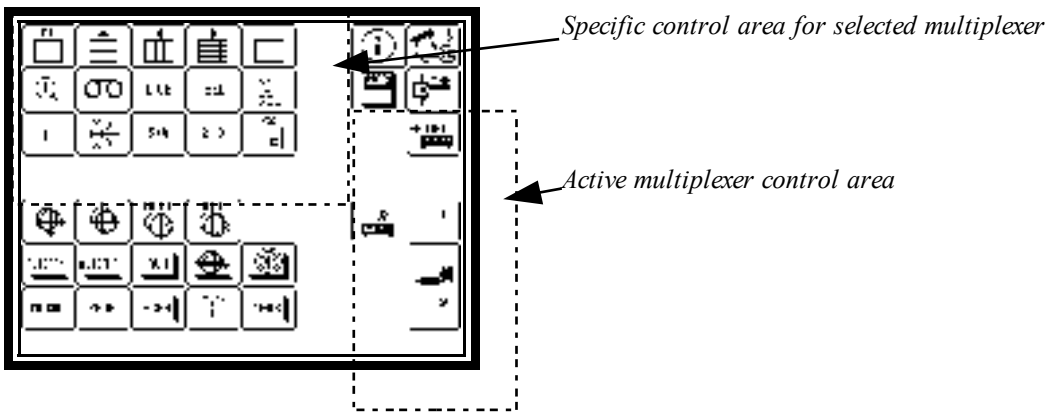
5.1.1.3 Multiplexer controlled by a video device

In the figure below the keyboard is controlling the matrix and shows the key for recalling multiplexer controls. The active controls are matrix controls (*see § 5.1.1.1 - Matrix connected to the video connector, pag.53*).



RECALL MULTIPLEXER
Used to pass from matrix controls to multiplexer controls.

In the figure below the keyboard is controlling the multiplexer and shows the key for recalling multiplexer controls. The active controls are the multiplexer controls (*see § 5.1.1.2 - Multiplexer connected to the video connector, pag.53*). Accepted multiplexers and cameras are defined in the external multiplexer (*see § 4.2.4.3 - Multiplexer cameras, pag.32 e see § 4.2.4.4 - External multiplexer , pag.33*).



RECALL MATRIX
Used to pass from multiplexer controls to matrix controls.

5.2 No video device connected

5.2.1 Description

For the situation where there is no wish to control video devices (matrixes or multiplexers) and only telemetry controls are needed.

5.2.2 Configuring the keyboard

During keyboard configuration, the COMUNICATIONS / VIDEO submenu (*see § 4.2.3.1 - Video, pag.22*), should have the following settings:

Type	----------
Protocol	----------
Baudrate	----------
Address	*(*)*
Multiplexer	----------

(*) Even in the presence of more than one keyboard the identification number of each keyboard is irrelevant.

5.2.3 Operational test

In the MAIN menu it is only possible to select cameras (*see § 6.1.2 - Changing camera , pag.96*).

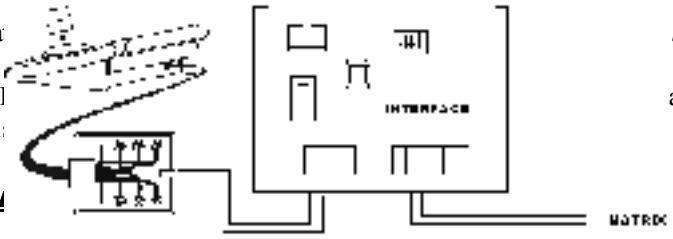
5.3 Video Matrixes EKR-8/4 and EKR-16/4 ENEO

5.3.1 Description

The EKR-8/4 and EKR-16/4 matrixes are products for professional applications in the security and surveillance sector, and are intended for the management of video signals. The EKR-8/4 and EKR-16/4 models differ only in the number of input videos it is possible to connect (8 and 16).
There are four output videos and one of these can be operated directly by a VCR.
The EKR-8/4 and EKR-16/4 matrix can be used for switching, alarm management and on screen menu programming functions and is also provided with an optional auxiliary line that can be used for telemetry or multiplexer unit control. Refer to the matrix manual for further relevant information.

5.3.2 Connection

The communica



line: standard connection

cable, pag.16).
Configure the DI

acro Protocol, baudrate 38400,

programming di

5.3.3 Configu

During keyboard configuration, the COMUNICATIONS / VIDEO submenu (*see § 4.2.3.1 - Video, pag.22*), should have the following settings:

	EKR-8/4	*EKR-16/4*
Type	*8/4 EKR ENEO*	*16/4 EKR ENEO*
Protocol	*MACRO*	*MACRO*
Baudrate	*38400*	*38400*
Address	*1..4 (*)*	*1..4 (*)*
Multiplexer	*---------- (**)*	*---------- (**)*

(*) If more than one keyboard is connected to the switcher this means different identification numbers should be defined (from 1 to 4) for each keyboard.
(**) If required select the type (*see § 4.2.4.4 - External multiplexer , pag.33*)

5.3.4 Operational test

If the keyboard is connected directly with the switcher configured as above, using the telephone cable supplied with the keyboard, it should be immediately possible to switch the input videos using the video/telemetry controls.

5.3.5 Matrix setup

Matrix setup can be changed by entering the related menu. (*see § 5.21.1 - Macro OSM , pag.93*).

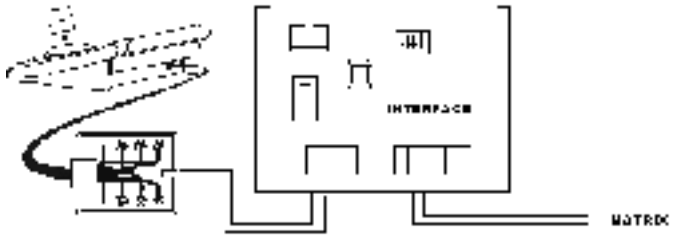
5.4 Video Matrixes VKR-16/4 and VKR-32/8 ENEO

5.4.1 Description

The VKR-16/4 and VKR-32/8 matrixes are products for professional use in security and surveillance applications, dedicated to the management of video signals.
The VKR-16/4 and VKR-32/8 matrixes have switching functions, alarm management and on screen menu programming and are also provided with an auxiliary line that can be used for telemetry control and a line for VCR control. See the matrix manual for further information about this.

5.4.2 Connection

The connection diagram is as follows:



DCT	RJjack	Interface IN	Interface OUT	*Matrix*
RS485A	*White*	*A*	*RX*	*TX*
			TX	*RX*
RS485B	*Yellow*	*B*	*GND*	*GND*

In the matrix set the communication protocol for port 3 (RS232 PC) as follows:
baudrate 9600, parity: none, protocol: PC, number of characters: 8. It is only possible to set up the matrix using keyboards of the type VKR-KB1 or VKR-KB2 ENEO..

5.4.3 Configurazione della tastiera

While configuring the keyboard, the COMMUNICATIONS / VIDEO submenu (see § 4.2.3.1 - Video, pag.22), should be set as follows:

	ENEO VKR-16/4	*ENEO VKR-32/8*
Type	*16/4 ENEO VKR*	*32/8 ENEO VKR*
Protocol	*ENEO*	*ENEO*
Baudrate	*9600*	*9600*
Address	*1..4 (*)*	*1..4 (*)*
Multiplexer	----------	----------

(*) The presence of more than one keyboard connected to the switcher makes it necessary to define different identification numbers (from 1 to 4) for each keyboard.

5.4.4 Operational test

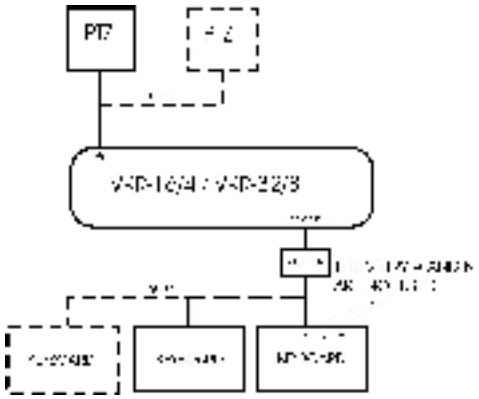
It the keyboard is connected as instructed in the section "Connection" it should be immediately possible to switch the video inputs using the video/telemetry controls.

5.4.5 Matrix setup

It is only possible to modify matrix setup using VKR-KB1 or VKR-KB2 ENEO type keyboards.

5.4.6 Possible types of installations

5.4.6.1 Telemetry control by the matrix alone

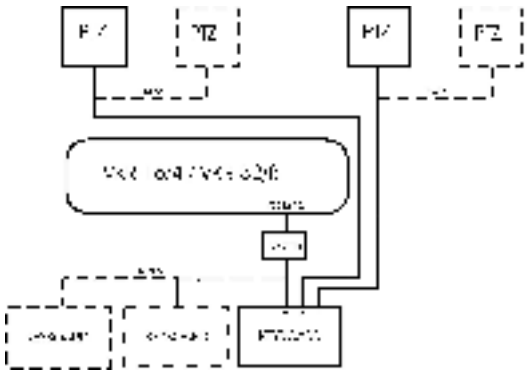


While configuring the keyboard, the COMMUNICATIONS / TELEMETRY submenu (see *§ 4.2.3.2 -Telemetry , page 24*), should be set as follows:

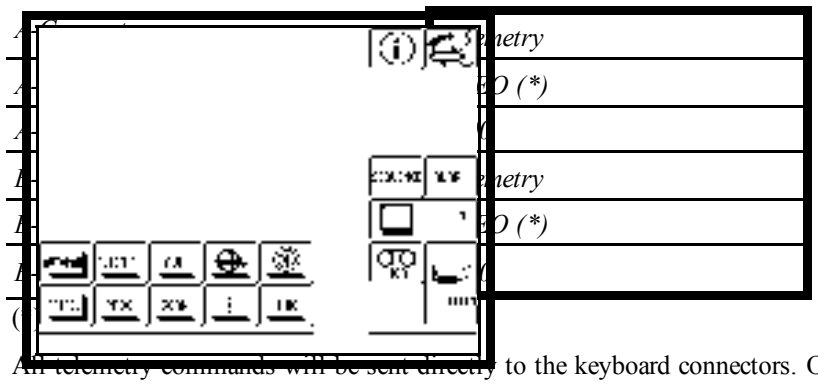
A-Connector	*Telemetry*
A-Protocol	----------
A-Baudrate	----------
B-Connector	*Telemetry*
B-Protocol	----------
B-Baudrate	----------

All telemetry commands will be sent to the matrix which in turn will send them along the P&T line. The telemetry protocol is set in the video matrix.

5.4.6.2 Telemetry control by the keyboard alone

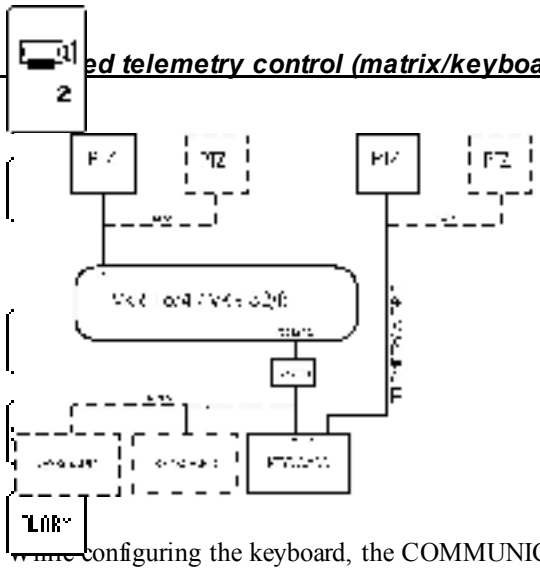


While configuring the keyboard, the COMMUNICATIONS / TELEMETRY submenu (see *§ 4.2.3.2 -Telemetry , page 24*), should be set as follows:

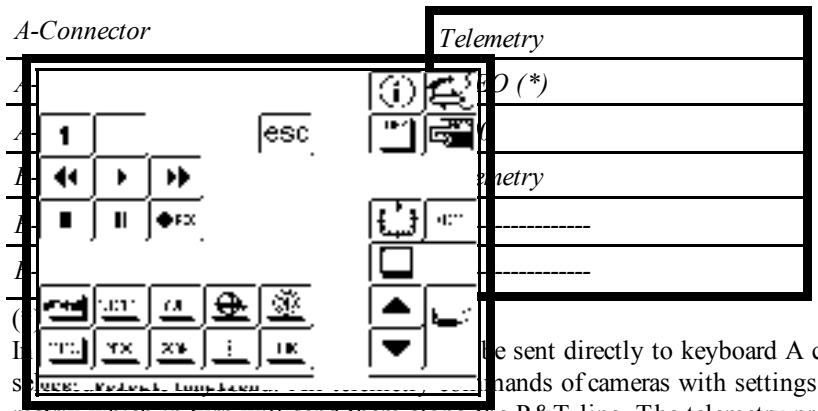


All telemetry commands will be sent directly to the keyboard connectors. Only video control commands are sent to the matrix.

5.4.6.3 ed telemetry control (matrix/keyboard)



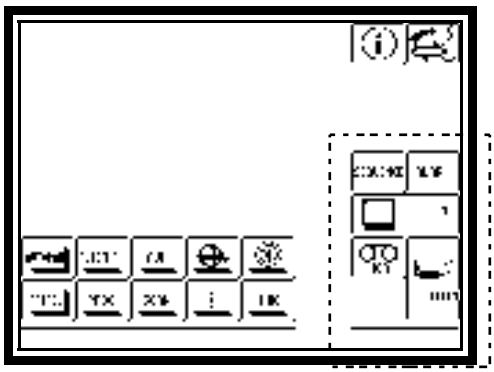
While configuring the keyboard, the COMMUNICATIONS / TELEMETRY submenu (see *§ 4.2.3.2 -Telemetry , page 24*), should be set as follows:



e sent directly to keyboard A connector using the protocol s nands of cameras with settings on the B line will be sent to the matrix which in turn will send them along the P&T line. The telemetry protocol is set in the video matrix. To set the cameras on line A or B (see *§ 4.2.4.1.1 - Cameras with a matrix connection, page 27*).

5.4.7 Application

5.4.7.1 Video controls



Area comandi video

CAMERA
Used to select the active camera.
Only enabled cameras can be recalled (see *§ 4.2.4.1.1 - Cameras with a matrix connection, page 27*).

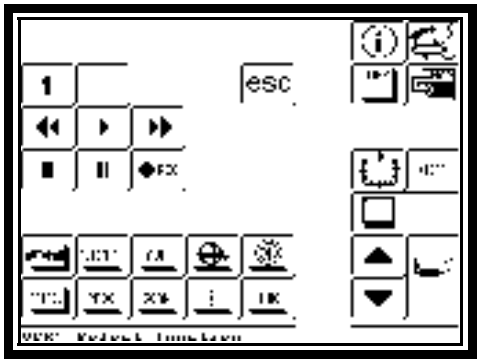
MONITOR
Used to select the active monitor.
Only enabled monitors can be recalled (*see § 4.2.4.2.1 - Monitor (connection with matrix) , page 30*).

VCR
Used to display controls for VCR management.

SEQUENCE
Activates the automatic sequence for the matrix corresponding to the active monitor.

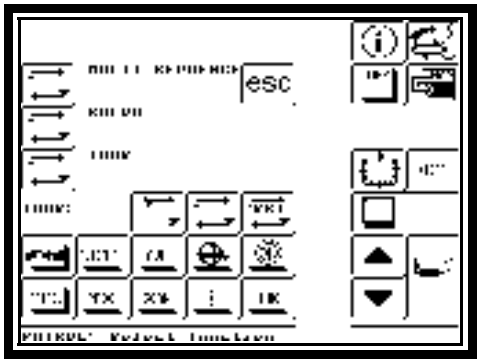
ALARM
Used to identify matrix alarms.

5.4.7.1.1 VCR controls

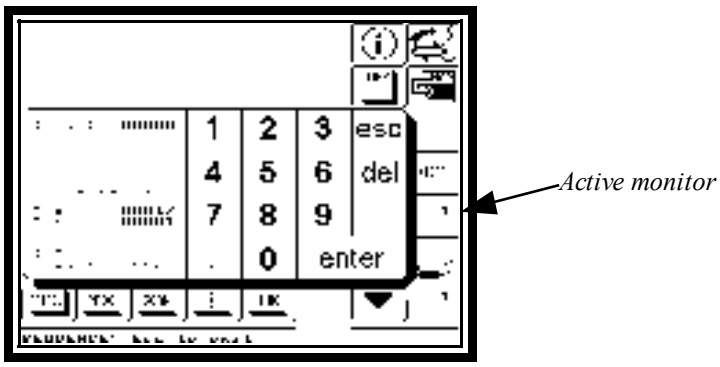


1,2
Buttons for selecting the active VCR.

COMANDI VCR
Buttons for the functions available to the VCR.

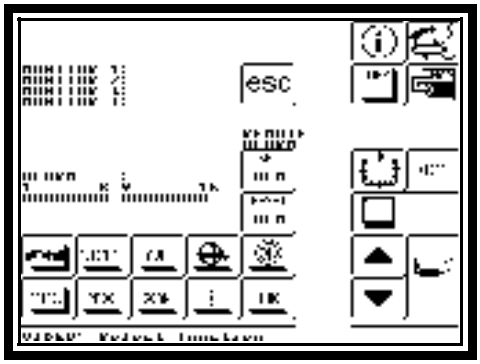

esc

5.4.7.1.2 SEQUENCE controls



Used to recall the sequence on the active monitor

5.4.7.1.3 ALARM control



Used to check the presence of alarms at connector input and the status of monitors in alarm mode.

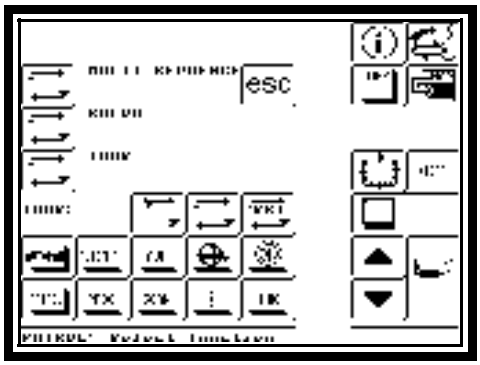
ACTIVATION OF ALARM REMOTE
Buttons for activating alarm remote

DE-ACTIVATION OF ALARM REMOTE
Buttons for deactivating alarm remote

See the matrix manual for further information on this subject.

5.4.7.1.4 Patrol Controls: Multi Sequence, Salvo and Tour.

This screen is shown if working with telemetry managed by the video matrix (see *§ 5.4.6 - Possible types of installations, page 58*)



MULTI SEQUENCE
Used to recall the MULTI SEQUENCES.

SALVO
Used to recall the SALVO function

TOUR
Selection buttons for active VCR.

STOP TOUR
Used to stop the TOUR in progress.

CONTINUE TOUR
Used to continue the stopped TOUR.

RESET TOUR
Resets the selected TOUR.

5.5 Video Matrixes SM84A and SM164A VIDEOTEC

5.5.1 Description

The SM84A/SM164A matrixes are products for professional applications in the security and surveillance sector, and are intended for the management of video signals. The SM84A and SM164A models differ only in the number of input videos it is possible to connect (8 and 16).
There are four output videos and one of these can be operated directly by a VCR.
The SM84A/SM164A matrix can be used for switching, alarm management and on screen menu programming functions and is also provided with an optional auxiliary line that can be used for telemetry or multiplexer unit control. Refer to the matrix manual for further relevant information.

5.5.2 Connection

The communication cable is the standard cable (*see § 3.3 - One keyboard per line: standard connection cable, pag.16*).
Configure the DIP switch inside the matrix appropriately (all dips are OFF: Macro Protocol, baudrate 38400, programming disabled).

5.5.3 Configuring the keyboard

During keyboard configuration, the COMUNICATIONS / VIDEO submenu (*see § 4.2.3.1 - Video, pag.22*), should have the following settings:

	SM84A	*SM164A*
Type	*8/4 VIDEOTEC*	*16/4 VIDEOTEC*
Protocol	*MACRO*	*MACRO*
Baudrate	*38400*	*38400*
Address	*1..4 (*)*	*1..4 (*)*
Multiplexer	*---------- (**)*	*---------- (**)*

(*) If more than one keyboard is connected to the switcher this means different identification numbers should be defined (from 1 to 4) for each keyboard.
(**) If required select the type (*see § 4.2.4.4 - External multiplexer , pag.33*)

5.5.4 Operational test

If the keyboard is connected directly with the switcher configured as above, using the telephone cable supplied with the keyboard, it should be immediately possible to switch the input videos using the video/telemetry controls.

5.5.5 Matrix setup

Matrix setup can be changed by entering the related menu. (*see § 5.21.1 - Macro OSM , pag.93*).

5.6 Switchers SM42A and SM82A VIDEOTEC

5.6.1 Description

The SM42A and SM82A switchers are products intended for video signal management. The SM42A and SM82A models differ only in the number of input videos it is possible to connect (4 and 8).
There are two output videos and one of these can be operated directly by a VCR.
The SM42A/SM82A switcher can be used for switching, alarm management and on screen menu programming functions and it is also provided with an optional auxiliary line that can be used for telemetry or multiplexer unit control. Refer to the switcher manual for further relevant information.

5.6.2 Connection

The communication cable is the standard cable (*see § 3.3 - One keyboard per line: standard connection cable, pag.16*).

5.6.3 Configuring the switcher

The latest generation SM42A/SM82A switcher can be controlled by different types of keyboards and hence emulates their respective protocols: to control the switcher with the DCT keyboard the MACRO protocol with baudrate 38400 should be used.
Configure the DIP switch inside the switcher appropriately (all dips are OFF: Macro Protocol, baudrate 38400, programming disabled).

5.6.4 Configuring the keyboard

During keyboard configuration, the COMUNICATIONS / VIDEO submenu (*see § 4.2.3.1 - Video, pag.22*), should have the following settings:

	SM42A	*SM82A*
Type	*4/2 VIDEOTEC*	*8/2 VIDEOTEC*
Protocol	*MACRO*	*MACRO*
Baudrate	*38400*	*38400*
Address	*1..4 (*)*	*1..4 (*)*
Multiplexer	*---------- (**)*	*---------- (**)*

(*) If two keyboards are connected to the switcher this means two different identification numbers should be defined (from 1 to 4).
(**) If required select the type (*see § 334.2.4.4 - External multiplexer , pag.33*).

5.6.5 Operational test

If the keyboard is connected directly with the switcher configured as above, using the telephone cable supplied with the keyboard, it should be immediately possible to switch the input videos using the video/telemetry controls.

5.6.6 Matrix setup

Matrix setup can be changed by entering the related menu. (*see § 5.21.1 - Macro OSM , pag.93*).

5.7 Linxs Matrixes LXRPS84A and LXRPS164A VIDEOTEC

5.7.1 Description

The LXRPS84A/LXRPS164A matrixes are products for professional applications in the security and surveillance sector, and are intended for the management of video signals. The LXRPS84A and LXRPS164A models differ only in the number of input videos it is possible to connect (8 and 16).
There are four output videos and one of these can be operated directly by a VCR.
They can be used to control the usual switching, alarm management and on screen menu programming functions. Refer to the matrix manual for further relevant information.

5.7.2 Connection

The communication cable is the standard cable (*see § 3.3 - One keyboard per line: standard connection cable, pag.16*).

5.7.3 Configuring the matrix

The matrix baudrate can be selected by the internal DIP switch SW1:

- dip 6 off: 9600 baud (default setting)
- dip 6 on: 1200 baud

The power supply to the matrix should be disconnected before changing the baud rate. Refer to the corresponding manual.

5.7.4 Configuring the keyboard

During keyboard configuration, the COMUNICATIONS / VIDEO submenu (*see § 4.2.3.1 - Video, pag.22*), should have the following settings:

	LXRPS84A	*LXRPS164A*
Type	*8/4 VIDEOTEC*	*16/4 VIDEOTEC*
Protocol	*LINXS*	*LINXS*
Baudrate	*1200-9600*	*1200-9600*
Address	*(*)*	*(*)*
Multiplexer	----------	----------

(*) Even in the presence of more than one keyboard connected to the matrix the identification number of each keyboard is irrelevant.

5.7.5 Operational test

If the keyboard is connected directly with the switcher configured as above, using the telephone cable supplied with the keyboard, it should be immediately possible to switch the input videos using the video/telemetry controls.

5.7.6 Matrix setup

Matrix setup can be changed by entering the corresponding menu. (*see § 5.21.3 - OSM LINXS (VIDEOTEC), pag.94*).

5.8 Linxs switchers LXRPS82A and LXRPS42A VIDEOTEC

5.8.1 Description

The LXRPS82A/LXRPS42A switchers are products for professional applications in the security and surveillance sector, and are intended for the management of video signals. The LXRPS82A and LXRPS42A models differ only in the number of input videos it is possible to connect (8 and 4).
There are two output videos and one of these can be operated directly by a VCR. They can be used to control the usual switching, alarm management and on screen menu programming. Refer to the switcher manual for further relevant information.

5.8.2 Connection

The communication cable is the standard cable (*see § 3.3 - One keyboard per line: standard connection cable, pag.16*).

5.8.3 Configuring the switcher

The switcher baudrate can be selected by means of the internal soldered jumper JP1:

- jumper open: 9600 baud (default setting)
- jumper shorted: 1200 baud

The power supply to the switcher should be disconnected before changing the baud rate. See the corresponding manual.

5.8.4 Configuring the keyboard

During keyboard configuration, the COMUNICATIONS / VIDEO submenu (*see § 22 - Video, pag.22*), should have the following settings:

	LXRPS42A	*LXRPS82A*
Type	*8/4 VIDEOTEC*	*16/4 VIDEOTEC*
Protocol	*LINXS*	*LINXS*
Baudrate	*1200-9600*	*1200-9600*
Address	*(*)*	*(*)*
Multiplexer	----------	----------

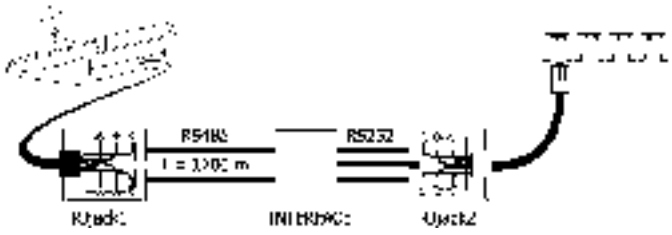
(*) Even in the presence of more than one keyboard connected to the matrix the identification number of each is irrelevant.

5.8.5 Operational test

If the keyboard is connected directly with the switcher configured as above, using the telephone cable supplied with the keyboard, it should be immediately possible to switch the input videos using the video/telemetry controls.

5.8.6 Matrix setup

Matrix setup can be changed by entering the corresponding menu. (*see § 5.21.3 - OSM LINXS (VIDEOTEC), pag.94*).



5.9 Video Matrix SW328 VIDEOTEC

5.9.1 Description

The SW328 matrix is a product for professional applications in the security and surveillance sector, and is intended for the management of video signals. It is able to control 32 input videos.
There are eight output videos and one of these can be operated directly by a VCR.
It can be used to control the usual switching and alarm management functions. Refer to the matrix manual for further relevant information.

5.9.2 Connection

The communication cable is the standard cable (*see § 3.3 - One keyboard per line: standard connection cable, pag.16*).

5.9.3 Configuring the matrix

The matrix does not require configuration.

5.9.4 Configuring the keyboard

During keyboard configuration, the COMUNICATIONS / VIDEO submenu (*see § 4.2.3.1 - Video, pag.22*), should have the following settings:

Type	*32/8 VIDEOTEC*
Protocol	*VIDEOTEC*
Baudrate	*9600*
Address	*1..8 (*)*
Multiplexer	----------

If more than one keyboard is connected to the switcher this means different identification numbers should be defined (from 1 to 4) for each keyboard.

5.9.5 Operational test

If the keyboard is connected directly with the switcher configured as above, using the telephone cable supplied with the keyboard, it should be immediately possible to switch the input videos using the video/telemetry controls.

	IMPORTANT NOTE! *The SW328 matrix can be configured so as to disable keyboard control at specified times during the day or in particular situations. In this case switching is impossible. Refer to the corresponding manual.*

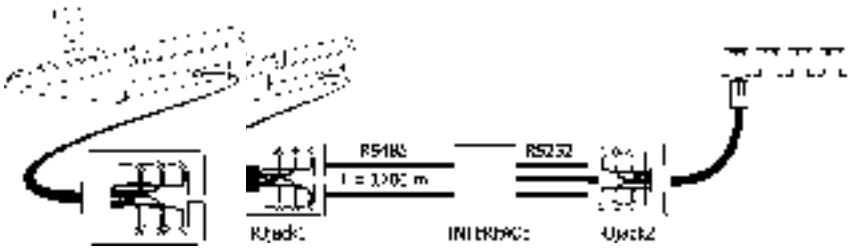
5.10 Video Matrix SW164OSM VIDEOTEC

5.10.1 Description

The SW164OSM matrix is a product for professional applications in the security and surveillance sector, and is intended for the management of video signals. It is able to control 16 input videos.
There are four output videos and one of these can be operated directly by a VCR.
It can be used for controlling the usual switching and alarm management functions. See the matrix manual for further relevant information.

5.10.2 Connection

The connection between matrix and keyboard is made by means of an RS232 channel, which should be converted into RS485 using a special interface to be installed between the output video connector on the keyboard and one of the matrix outlets.
The connection diagram is as follows:



DCT	RJjack1	Interface IN	Interface OUT	RJjack2	*SW164OSM*
RS485A	*white*	*A*	*RX*	*white*	TX
			TX	*yellow*	RX
RS485B	*yellow*	*B*	*GND*	*red*	GND

5.10.3 Configuring the matrix

Both jumpers JP1 and JP2 inside the matrix should be configured for RS232 type communication, as shown in the printed circuit diagram.

The baud rate can be selected using DIP switch SW1:

Baudrate	Dip 3	Dip 4
9600 baud	*ON*	*ON*
1200 baud	*OFF*	*ON*

Refer to the corresponding manual for further explanations.

5.10.4 Configuring the keyboard

During keyboard configuration, the COMUNICATIONS / VIDEO submenu (see § 3.3 - *One keyboard per line: standard connection cable, pag.16*), should have the following settings :

Type	*16/4 VIDEOTEC*
Protocol	*VIDEOTEC*
Baudrate	*1200-9600*
Address	*(*)*
Multiplexer	----------

Even in the presence of more than one keyboard connected to the matrix the identification number of each keyboard is irrelevant.

5.10.5 Operational test

If the keyboard is connected directly with the switcher configured as above, using the telephone cable supplied with the keyboard, it should be immediately possible to switch the input videos using the video/telemetry controls.

5.10.6 Matrix setup

Matrix setup can be changed by entering the corresponding menu. (*see § 5.21.2 - VIDEOTEC 164OSM, pag.94*).

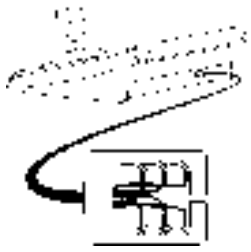
5.11 AHDR4/9/16 ADEMCO DVR

5.11.1 Description

The AHDR4, AHDR9, AHDR16 DVR allow linking respectively 4, 9 and 16 videos that are digitised and shown in a compound output image.

	ATTENTION *Set the following paramters in the DVR menu:* *in the "System Information" menu set the address of the "Unit ID" device, with a value between 1 and 99;* *in the "RS232/RS485" menu set RS485 with the baudrate between 300 and 38400, None, 8, 1, "remote control".*

5.11.2 Direct link



White	**RS485A**	Rx+
Yellow	**RS485B**	Rx-

DVR

The link is a one-way RS485 type, and the maximum distance between the keyboard and the multiplexer is 1,200 meters.

5.11.3 Configuration of the multiplexer

Configuration can be done from the keys on the multiplexer or from the DCT keyboard if the multiplexer has previously been configured for RS485 communications.
Please refer to the relative manual.

5.11.4 Configuration of the keyboard

When the keyboard is being configured, the sub-menu must be set as follows:

	DIRECT LINK	INDIRECT LINK
Type	*MULTIPLEXER*	*4/2 … 128/16*
Protocol	*ADEMCO AHDR4/9/16*	*MACRO*
Baudrate	*300-38400*	*1200-38400*
Indirizzo	*(*)*	*(**)*
Multiplexer	----------	*ADEMCO AHDR4/9/16*

(*) More than one keyboard can be linked to each ADEMCO DVR, the keyboard identification number is of no importance here. Various multiplexers can be controlled from the same keyboard as long as they are identified by different unit numbers.
(**) If there is a number of keyboards linked to the cyclic, it means different identification numbers must be given to each keyboard.

5.11.5 Direct link function test

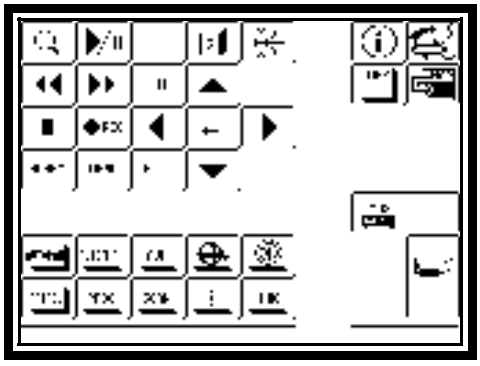
Select multiplexer no. 1 and switch the various cameras. If there is more than one multiplexer, select the number that corresponds to the set address (1..99) and switch the various cameras.

5.11.6 Indirect link function test

In the MAIN menu, view the controls for the multiplexer and switch the various cameras. If there is more than one multiplexer, select the number that corresponds to the set address (1..99) and switch the various cameras.

5.11.7 Dedicated functions

Besides the normal procedure of selecting the video inputs, the ADEMCO DVR has numerous other functions that are shown in the MAIN menu in the same graphic form as the keys on the local keyboard.
Please refer to the multiplexer manual for further information



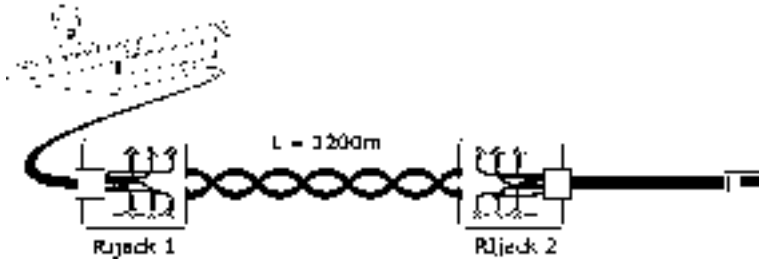
5.12 ADEMCO Multiplexer

5.12.1 Description

The AXMD16E / AXCD16EX multiplexer allows linking 16 video inputs that are digitized and shown in a compound output image.

	ATTENTION *Set the following parameters in the multiplexer communications menu: Master/Slave: Slave, Type: RS485, Protocol: A*

5.12.2 Direct link



DCT	RJjack1	RJjack2	JAVELIN
RS485A	*White*	*Black*	*RS485A*
RS485B	*Yellow*	*green*	*RS485B*

The link is a one-way RS485 type, and the maximum distance between the keyboard and the multiplexer is 1,200 meters.

5.12.3 Configuration of the multiplexer

Configuration can be done through the keys on the multiplexer or using the DCT keyboard, if the multiplexer has been previously configured for RS485 communications.
Please refer to the relative manual.
To set the multiplexer from the DCT keyboard, it must be enabled for the matrix/mux setup (see *§* 4.2.4.5 - Functions, pag. 34).

5.12.4 Configuration of the keyboard

When the keyboard is being configured, the sub-menu must be set as follows:

	DIRECT LINK	INDIRECT LINK
Type	*MULTIPLEXER*	*4/2 … 128/16*
Protocol	*ADEMCO MUX*	*MACRO*
Baudrate	*1200-19200*	*1200-38400*
Address	*(*)*	*(**)*
Multiplexer	----------	*ADEMCO MUX*

(*) More than one keyboard can be linked to each ADEMCO multiplexer, the keyboard identification number is of no importance here. Various multiplexers can be controlled from the same keyboard as long as they are identified by different unit numbers.
(**) If there is a number of keyboards linked to the cyclic, it means different identification numbers must be given to each keyboard.

5.12.5 Direct link function test

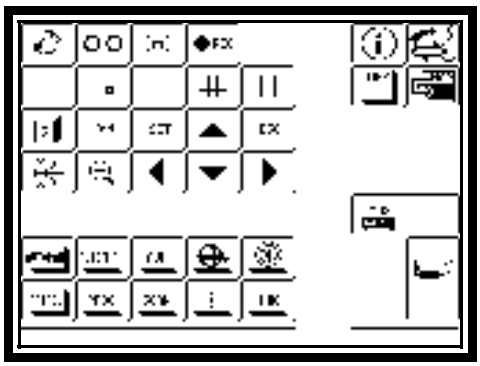
Select multiplexer no. 1 and switch the various cameras. If there is more than one multiplexer, select the number that corresponds to the set address (1..99) and switch the various cameras.

5.12.6 Indirect link function test

In the MAIN menu, view the controls for the multiplexer and switch the various cameras. If there is more than one multiplexer, select the number that corresponds to the set address (1..99) and switch the various cameras.

5.12.7 Dedicated functions

Besides the normal procedure of selecting the video inputs, the ADEMCO multiplexer has numerous other functions that are shown in the MAIN menu in the same graphic form as the keys on the local keyboard. Please refer to the multiplexer manual for further information.



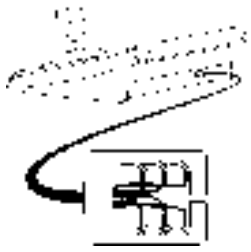
5.13 ENEO DVR

5.13.1 Description

The DLR-204, DLR-109, DLR-116 DVR allow linking respectively 4, 9 and 16 videos that are digitised and shown in a compound output image.

	ATTENTION *Set the following paramters in the DVR menu:* *in the "System Information" menu set the address of the "Unit ID" device, with a value between 1 and 99;* *in the "RS232/RS485" menu set RS485 with the baudrate between 300 and 38400, None, 8, 1, "remote control".*

5.13.2 Direct link



White	**RS485A**	Rx+
Yellow	**RS485B**	Rx-

DVR

The link is a one-way RS485 type, and the maximum distance between the keyboard and the multiplexer is 1,200 meters.

5.13.3 Configuration of the multiplexer

Configuration can be done from the keys on the DVR or from the DCT keyboard if the multiplexer has previously been configured for RS485 communications.
Please refer to the relative manual.

5.13.4 Configuration of the keyboard

When the keyboard is being configured, the sub-menu must be set as follows:

	DIRECT LINK	***INDIRECT LINK***
Type	*MULTIPLEXER*	*4/2 … 128/16*
Protocol	*ENEO DLR-204/109/116*	*MACRO*
Baudrate	*300-38400*	*1200-38400*
Indirizzo	*(*)*	*(**)*
Multiplexer	----------	*ENEO DLR-204/109/116*

(*) More than one keyboard can be linked to each ENEO DVR, the keyboard identification number is of no importance here. Various DVR can be controlled from the same keyboard as long as they are identified by different unit numbers.

(**) If there is a number of keyboards linked to the cyclic, it means different identification numbers must be given to each keyboard.

5.13.5 Direct link function test

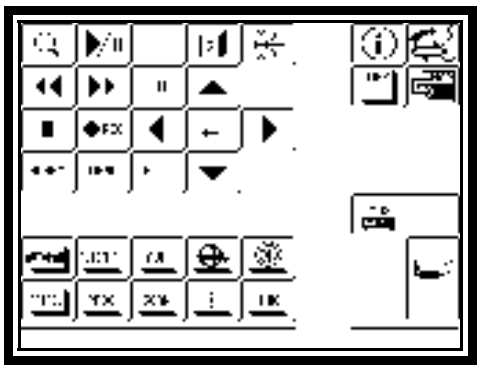
Select multiplexer no. 1 and switch the various cameras. If there is more than one multiplexer, select the number that corresponds to the set address (1..99) and switch the various cameras.

5.13.6 Indirect link function test

In the MAIN menu, view the controls for the multiplexer and switch the various cameras. If there is more than one DVR, select the number that corresponds to the set address (1..99) and switch the various cameras.

5.13.7 Dedicated functions

Besides the normal procedure of selecting the video inputs, the ENEO DVR has numerous other functions that are shown in the MAIN menu in the same graphic form as the keys on the local keyboard.
Please refer to the DVR manual for further information



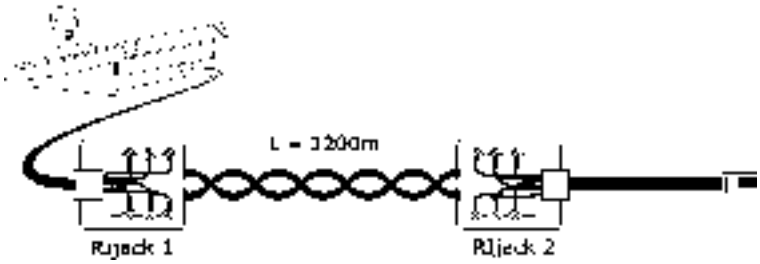
5.14 ENEO Multiplexer

5.14.1 Description

The ENEO multiplexer (VCMT-8009/8016 and VBMT-8009/8016) is able to connect 9/16 input videos that are digitised and displayed in a composite output image. A spot service monitor will provide the display of an individual input.
Communication from keyboard to multiplexer is one-way. It is necessary to select whether the connected multiplexer is the black & white or colour model.
It is also possible to control the multiplexer indirectly, using one of the latest generation video matrixes ENEO EKR-8/4 EKR-16/4 and VIDEOTEC SM-A series (SM42A, SM82A, SM84A, SM164A).

	IMPORTANT NOTE! *For the new models, in the multiplexer communications menu set the following parameters as indicated: Type: RS485, Baudrate: 9600, Port: ON, Protocol: A*

5.14.2 Direct connection

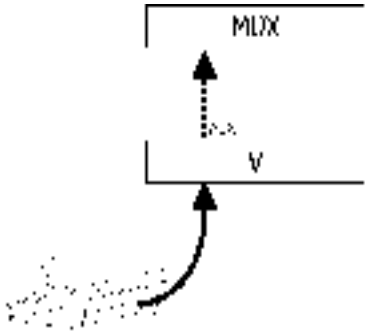


DCT	RJjack1	RJjack2	ENEO
RS485A	*white*	*black*	*RS485A*
RS485B	*yellow*	*green*	*RS485B*

The connection is of the RS485 type (one-way) and the maximum distance between keyboard and multiplexer is 1200 metres.

5.14.3 Indirect connection

The multiplexer can be controlled by a latest generation video matrixes ENEO EKR-8/4 EKR-16/4 and VIDEOTEC SM-A series (SM42A, SM82A, SM84A, SM164A).



To be able to control a multiplexer in this way, the MACRO protocol should be used.

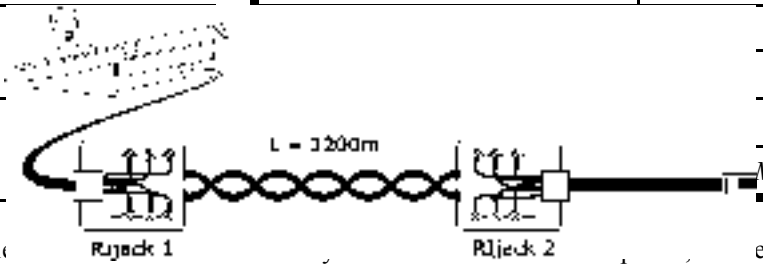
5.14.4 Configuring the multiplexer

The ENEO multiplexer is available in two versions with different control protocols.
Only the colour model can be configured via the keyboard.
See the corresponding manual.
To be able to configure the colour multiplexer from the DCT keyboard the matrix/mux setup menu must be enabled (*see § 4.2.4.5 - Functions, pag.34*).

5.14.5 Configuring the keyboard

During keyboard configuration, the submenu should have the following settings:

	DIRECT connection	*INDIRECT connection*
Type	*MULTIPLEXER*	*4/2 … 128/16*
Protocol	*ENEO VCM/ENEO VBM*	*MACRO*
Baudrate	*1200-9600*	*1200-38400*
Address		
Multiplexer		*M/ENEO VBM*



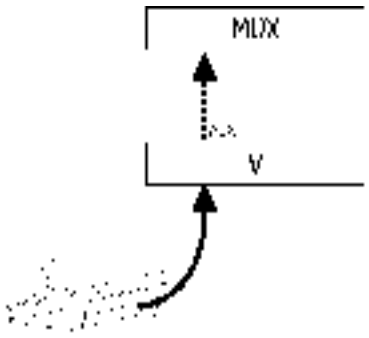
(*) It is possibl eyboard identification number is irrelevant. More than one multiplexer can be controlled by the same keyboard, as long as they are identified by different unit numbers.
(**) If more than one keyboard is connected to the switcher this means different identification numbers should be defined for each keyboard.

5.14.6 Operational test for direct connection

Select multiplexer 1 and switch the various cameras. If there is more than one multiplexer select the number corresponding to the address setting (1..99) and switch the various cameras.
Note: The DCT keyboard emulates the controls of the local multiplexer keyboard. Switching times are slowed down by the type of protocol installed by the multiplexer manufacturer.

5.14.7 Operational test for indirect connection

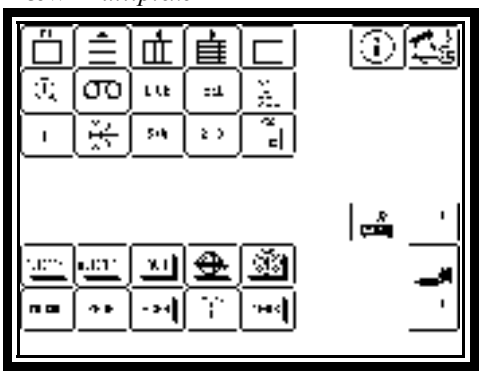
In the MAIN menu, display the ous cameras. If there is more than one multiplexer select the number c)) and switch the various cameras.



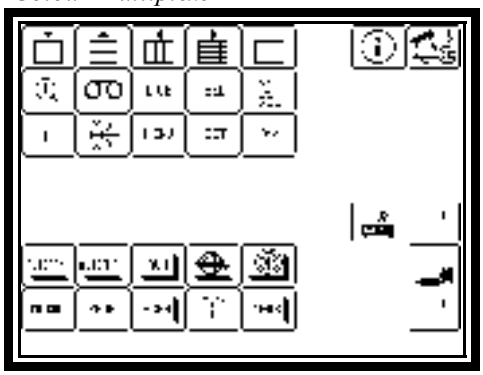
5.14.8 Dedicated functions

As well as the normal procedure for selecting input videos, the ENEO multiplexer is provided with numerous other functions that are displayed in the MAIN menu in the same graphics format as the keys on the local keypad.
Refer to the multiplexer manual for further explanations.

B& W Multiplexer



Colour Multiplexer



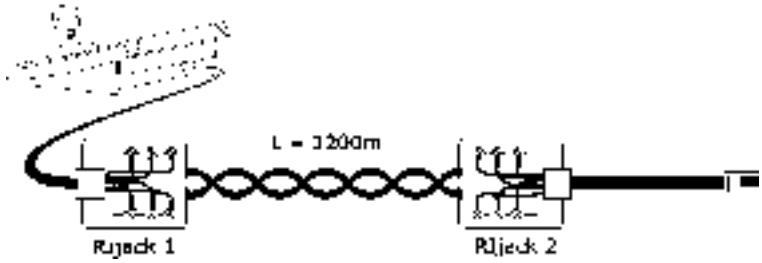
5.15 JAVELIN/HITRON Multiplexer

5.15.1 Description

The Javelin multiplexer is able to connect 16 input videos that are digitised and displayed in a composite output image. A spot service monitor will provide the display of an individual input.
Communication from keyboard to multiplexer is one-way. It is necessary to select whether the connected multiplexer is the black & white or colour model.
It is also possible to control the multiplexer indirectly, using one of the latest generation video matrixes ENEO EKR-8/4 EKR-16/4 and VIDEOTEC SM-A series (SM42A, SM82A, SM84A, SM164A).

	IMPORTANT NOTE! *For the new models, in the multiplexer communications menu set the following parameters as indicated: Type: RS485, Baudrate: 9600, Port: ON, Protocol: A*

5.15.2 Direct connection

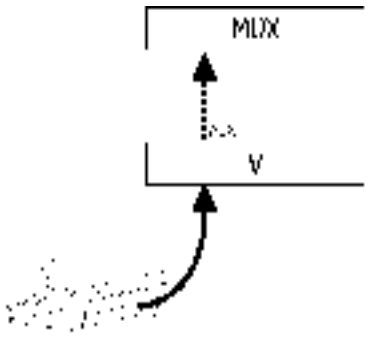


DCT	RJjack1	RJjack2	JAVELIN
RS485A	*white*	*black*	*RS485A*
RS485B	*yellow*	*green*	*RS485B*

The connection is of the RS485 type (one-way) and the maximum distance between keyboard and multiplexer is 1200 metres.

5.15.3 Indirect connection

The multiplexer can be controlled by a latest generation video matrixes ENEO EKR-8/4 EKR-16/4 and VIDEOTEC SM-A series (SM42A, SM82A, SM84A, SM164A).



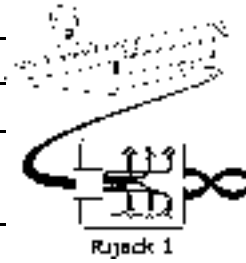
To be able to control a multiplexer in this way, the MACRO protocol should be used.

5.15.4 Configuring the multiplexer

The Javelin multiplexer is available in two versions with different control protocols.
Only the colour model can be configured via the keyboard.
See the corresponding manual.
To be able to configure the colour multiplexer from the DCT keyboard the matrix/mux setup menu must be enabled (*see § 4.2.4.5 - Functions, pag.34*).

5.15.5 Configuring the keyboard

During keyboard configuration, the submenu should have the following settings:



	DIRECT connection	*INDIRECT connection*
Type		*/16*
Protocol		
Baudrate		*0*
Address		
Multiplexer	----------	*JAVELIN B/W / JAVELIN COL*

(*) It is possible to connect more than one keyboard to each Javelin multiplexer, the keyboard identification number is irrelevant. More than one multiplexer can be controlled by the same keyboard, as long as they are identified by different unit numbers.
(**) If more than one keyboard is connected to the switcher this means different identification numbers should be defined for each keyboard.

5.15.6 Operational test for direct connection

Select multiplexer 1 and switch the various cameras. If there is more than one multiplexer select the number corresponding to the address setting (1..99) and switch the various cameras.
Note: The DCT keyboard emulates the controls of the local multiplexer keyboard. Switching times are slowed down by the type of protocol installed by the multiplexer manufacturer.

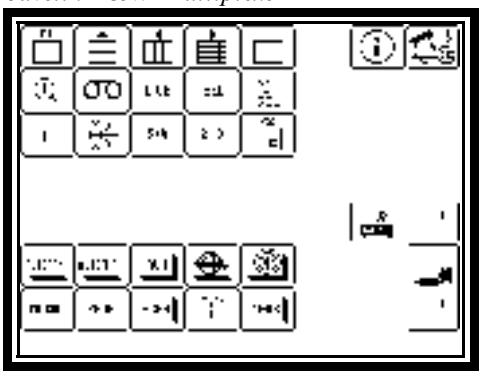
5.15.7 Operational test for indirect connection

In the MAIN menu, display the multiplexer controls and switch the various cameras. If there is more than one multiplexer select the number corresponding to the address setting (1..99) and switch the various cameras.

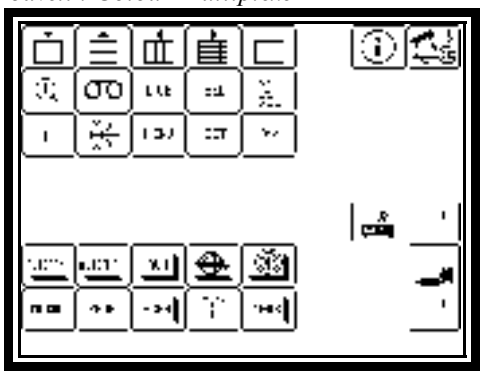
5.15.8 Dedicated functions

As well as the normal procedure for selecting input videos, the Javelin multiplexer is provided with numerous other functions that are displayed in the MAIN menu in the same graphics format as the keys on the local keypad.
Refer to the multiplexer manual for further explanations.

Javelin B&W Multiplexer



Javelin Colour Multiplexer



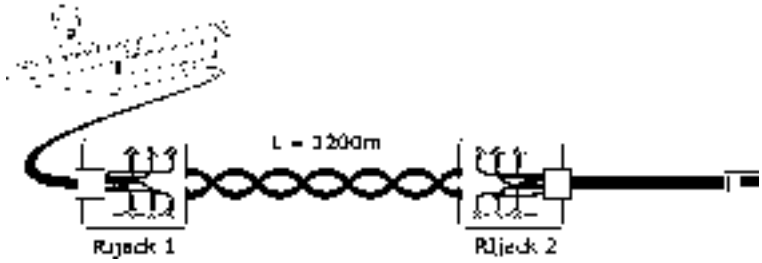
5.16 SANYO DVR

5.16.1 Description

The Sanyo DVR DSR-3016P / DSR-3009P can be used to connect 16 input videos which are digitised and shown in a composite output image.

	WARNING *In the DVR menu regarding communications, set the parameters related to RS485 communication and the device address (see the corresponding manual)*

5.16.2 Direct connection



DCT	RJjack1	RJjack2	JAVELIN
RS485A	*white*	*red*	*RS485A*
RS485B	*yellow*	*green*	*RS485B*

The connection is of the RS485 type (one-way) and the maximum distance between keyboard and DVR is 1200 metres.

5.16.3 Configuring the DVR

Configuration can be carried out using the keys on the DVR or via the DCT keyboard if the DVR has already been configured for RS485 communication.
See the corresponding manual.
To be able to set up the DVR from the DCT keyboard it is necessary to enable setup matrixes/mux (*see § 4.2.4.5 - Functions, page34*).

5.16.4 Configuring the keyboard

When configuring the keyboard, the submenu should be set up as follows:

	DIRECT CONNECTION	INDIRECT CONNECTION
Type	*MULTIPLEXER*	*4/2 … 128/16*
Protocol	*SANYO DVR*	*MACRO*
Baudrate	*1200-19200*	*1200-38400*
Address	*(*)*	*(**)*
DVR	----------	*SANYO DVR*

(*) It is possible to connect more than one keyboard to each SANYO DVR, the identification number of the keyboard is of no importance. More than one DVR can be controlled by the same keyboard, as long as they are identified by different unit numbers.
(**) The presence of more than one keyboard connected to the switcher makes it necessary to define different identification numbers for each keyboard.

5.16.5 Operational test for direct connection

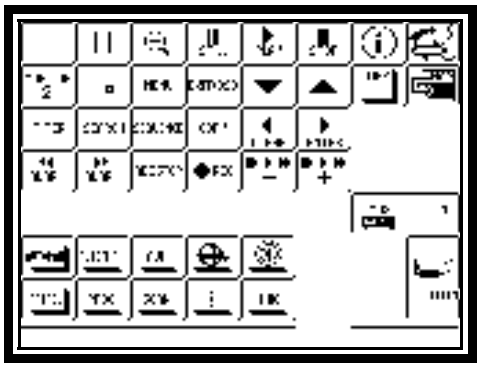
Select DVR 1 and switch the various cameras. If there is more than one DVR select the number corresponding to the address setting (1..99) and switch the various cameras.

5.16.6 Operational test for indirect connection

In the MAIN menu, display the DVR controls and switch the various cameras. If there is more than one DVR select the number corresponding to the address setting (1..99) and switch the various cameras.

5.16.7 Dedicated functions

As well as the normal procedure for selecting input videos, the SANYO DVR is provided with numerous other functions that are shown in the MAIN menu with the same graphic format as the keys present on the local keypad.
See the DVR manual for further details.



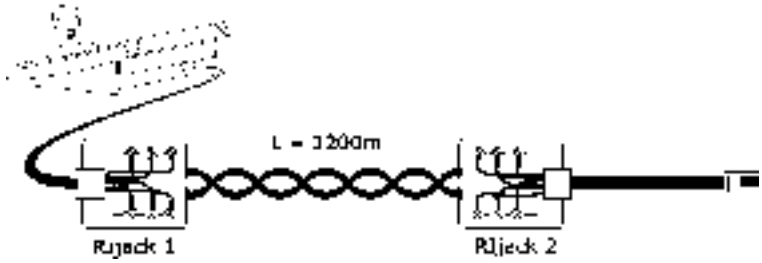
5.17 SANYO Multiplexer

5.17.1 Description

The Sanyo MPX-CD13 multiplexer allows linking 16 video inputs that are digitised and shown in a compound output image.

	ATTENTION *in the multiplexer communications menu set the parameters for the RS485 communication and the address of the device (refer to the relative manual)*

5.17.2 Direct link



DCT	RJjack1	RJjack2	JAVELIN
RS485A	*white*	*red*	*RS485A*
RS485B	*yellow*	*green*	*RS485B*

The link is a one-way RS485 type, and the maximum distance between the keyboard and the multiplexer is 1,200 meters.

5.17.3 Configuration of the multiplexer

Configuration can be done through the keys on the multiplexer or using the DCT keyboard, if the multiplexer has been previously configured for RS485 communications.
Please refer to the relative manual.
To set the multiplexer from the DCT keyboard, it must be enabled for the matrix/mux setup (see *4.2.4.5§* - Functions, pag. 34).

5.17.4 Configuration of the keyboard

When the keyboard is being configured, the sub-menu must be set as follows:

	DIRECT LINK	INDIRECT LINK
Type	*MULTIPLEXER*	*4/2 … 128/16*
Protocol	*SANYO MUX*	*MACRO*
Baudrate	*1200-19200*	*1200-38400*
Address	*(*)*	*(**)*
Multiplexer	----------	*SANYO MUX*

(*) More than one keyboard can be linked to each SANYO multiplexer, the keyboard identification number is of no importance here. Various multiplexers can be controlled from the same keyboard as long as they are identified by different unit numbers.
(**) If there is a number of keyboards linked to the cyclic, it means different identification numbers must be given to each keyboard.

5.17.5 Direct link function test

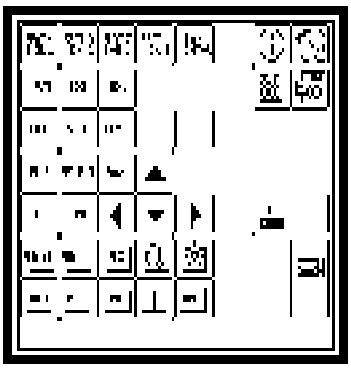
Select multiplexer no. 1 and switch the various cameras. If there is more than one multiplexer, select the number that corresponds to the set address (1..99) and switch the various cameras.

5.17.6 Indirect link function test

In the MAIN menu, view the controls for the multiplexer and switch the various cameras. If there is more than one multiplexer, select the number that corresponds to the set address (1..99) and switch the various cameras.

5.17.7 Dedicated functions

Besides the normal procedure of selecting the video inputs, the SANYO multiplexer has numerous other functions that are shown in the MAIN menu in the same graphic form as the keys on the local keyboard. Please refer to the multiplexer manual for further information



5.18 SONY DVR

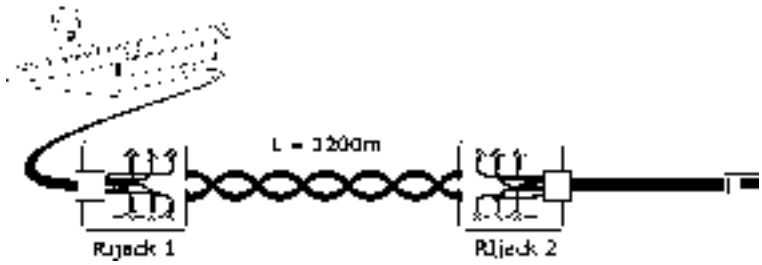
5.18.1 Description

The Sony HSR-X216P DVR is able to connect16 input videos that are digitised and recorded in digital form. Communication from keyboard to DVR is one-way.

5.18.2 Materials and reference documents

Sony HSR-X216P DVR
DVR Manual
Security Serial Protocol Ver. 1.11.2, issued on November 28, 2002.

5.18.3 Direct connection



DCT	RJjack1	RJjack2	SP16C
RS485A	*white*	*red*	*RS485A*
RS485B	*yellow*	*green*	*RS485B*

The connection is of the RS485 type (one-way) and the maximum distance between keyboard and DVR is 1200 metres.

5.18.4 Configuring the DVR

The DVR can be configured using the local DVR keyboard or the DCT keyboard. It is necessary to configure the RS485 communication mode and the DVR address appropriately. See the corresponding manual.
To be able to configure the DVR from the DCT keyboard setup matrixes/mux should be enabled (*see § 4.2.4.5 - Functions, pag.34*).

5.18.5 Configuring the keyboard

During keyboard configuration, the submenu should have the following settings:

	DIRECT connection	*INDIRECT connection*
Type	*MULTIPLEXER*	*4/2 … 128/16*
Protocol	*SONY DVR*	*MACRO*
Baudrate	*2400-19200*	*1200-38400*
Address	*(*)*	*(**)*
Multiplexer	----------	*SONY DVR*

(*) It is possible to connect more than one keyboard to each DVR, the keyboard identification number is irrelevant. More than one DVR can be controlled by the same keyboard, as long as they are identified by different unit numbers.

(**) The presence of more than one keyboard connected to the switcher means it is necessary to define different identification numbers for each keyboard.
The connection is of the RS485 type (one-way) and the maximum distance between keyboard and DVR is therefore 1200 metres.

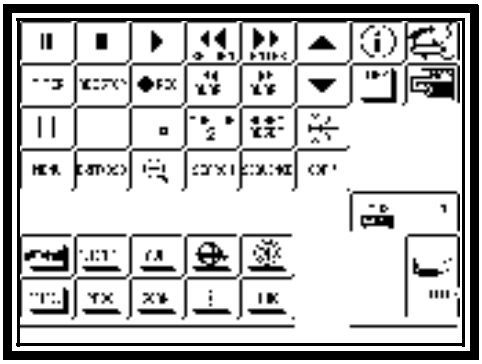
5.18.6 Operational test

Select DVR 1 and switch the various cameras.

5.18.7 Dedicated functions

As well as the normal input video selection procedure, the DVR is provided with numerous other functions that are shown in the MAIN menu with the same graphics format as the keys on the local keypad.
Refer to the DVR manual for further explanations.

DVR HSR-X216P



5.19 SONY Multiplexer

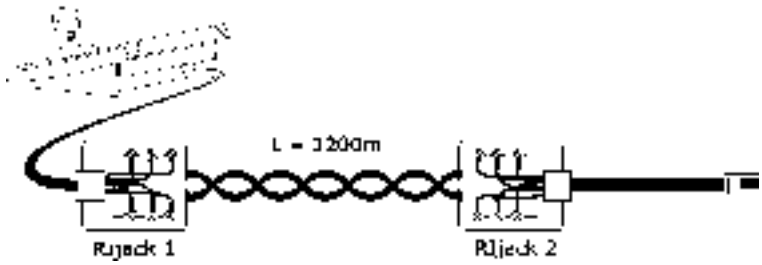
5.19.1 Description

The Sony YS-DX516P multiplexer is able to connect 16 input videos that are digitised and displayed in a composite output image. Communication from keyboard to multiplexer is one-way.

5.19.2 Materials and reference documents

Sony YS-DX516P Multiplexer
Multiplexer manual
Security Serial Protocol Ver. 1.11.2, issued on November 28, 2002.

5.19.3 Direct connection



DCT	RJjack1	RJjack2	SP16C
RS485A	*white*	*red*	*RS485A*
RS485B	*yellow*	*green*	*RS485B*

The connection is of the RS485 type (one-way) and the maximum distance between keyboard and multiplexer is 1200 metres.

5.19.4 Configuring the multiplexer

The multiplexer can be configured using the local multiplexer keyboard or the DCT keyboard. The DIP switch on the back of the unit should be configured appropriately. See the corresponding manual.
To be able to configure the multiplexer from the DCT keyboard matrix/mux setup should be enabled (*see § 4.2.4.5 - Functions, pag.34*).
When this type of device is selected, it is not possible to activate the Focus function that is always active in the foreground of the main menu. (*see § 4.2.4.6 - Common keys, page 35*).

5.19.5 Configuring the keyboard

During keyboard configuration, the submenu should have the following settings :

	DIRECT connection	*INDIRECT connection*
Type	*MULTIPLEXER*	*4/2 … 128/16*
Protocol	*SONY MUX*	*MACRO*
Baudrate	*2400-19200*	*1200-38400*
Address	*(*)*	*(**)*
Multiplexer	----------	*SONY MUX*

(*) It is possible to connect more than one keyboard to each multiplexer, the keyboard identification number is irrelevant. More than one multiplexer can be controlled by the same keyboard, as long as they are identified by different unit numbers.

(**) The presence of more than one keyboard connected to the switcher means it is necessary to define different identification numbers for each keyboard.

The connection is of the RS485 type (one-way) and the maximum distance between keyboard and multiplexer is therefore 1200 metres.

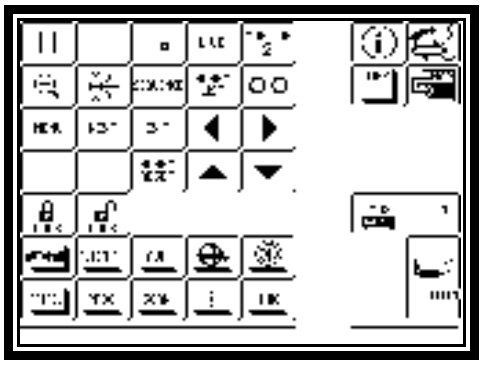
5.19.6 Operational test

Select multiplexer 1 and switch the various cameras.

5.19.7 Dedicated functions

As well as the normal input video selection procedure, the multiplexer is provided with numerous other functions that are shown in the MAIN menu with the same graphics format as the keys on the local keypad. Refer to the multiplexer manual for further explanations.

YS-DX516P Multiplexer

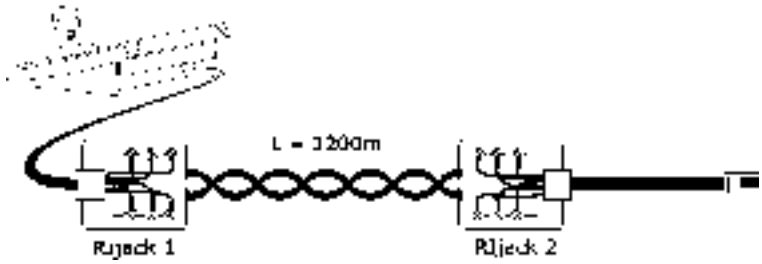


5.20 SP16C Multiplexer VIDEOTEC

5.20.1 Description

The SP16C multiplexer is able to connect 16 input videos that are digitised and displayed in a composite output image. A spot service monitor will provide the display of an individual input.
Communication from keyboard to multiplexer is one-way.
It is also possible to control the multiplexer indirectly, using one of the latest generation video matrixes ENEO EKR-8/4 EKR-16/4 and VIDEOTEC SM-A series (SM42A, SM82A, SM84A, SM164A).

5.20.2 Direct connection

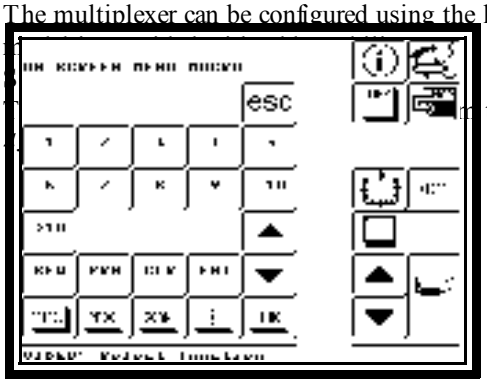


DCT	RJjack1	RJjack2	SP16C
RS485A	*white*	*black*	*RS485A*
RS485B	*yellow*	*yellow*	*RS485B*

The connection is of the RS485 type (one-way) and the maximum distance between keyboard and multiplexer is 1200 metres.

5.20.3 Configuring the multiplexer

The multiplexer can be configured using the local multiplexer keyboard or the DCT keyboard only if the



n the DCT keyboard matrix/mux setup should be enabled (*see §*

5.20.4 Configuring the keyboard

	DIRECT connection	INDIRECT connection
Type	*MULTIPLEXER*	*4/2 … 128/16*
Protocol	*SP16C (SP16CA addressable)*	*MACRO*
Baudrate	*9600*	*1200-38400*
Address	*(*)*	*(**)*
Multiplexer	----------	*SP16C (SP16C-A addressable)*

The connection is of the RS485 type (one-way) and the maximum distance between keyboard and multiplexer is therefore 1200 metres.
(*) It is possible to connect more than one keyboard to each multiplexer, the keyboard identification number is irrelevant. More than one multiplexer can be controlled by the same keyboard, as long as they are addressable and identified by different unit numbers.

(**) The presence of more than one keyboard connected to the switcher/matrix means it is necessary to define different identification numbers for each keyboard.

5.20.5 Configuring the multiplexer

The non-addressable model of the multiplexer can only be configured using the local multiplexer keyboard while the addressable model can also be configured from the DCT keyboard.
See the corresponding manual.

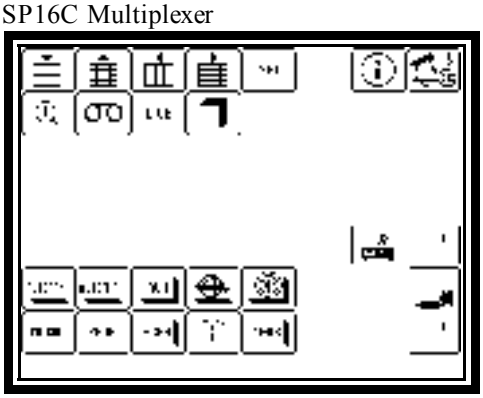
5.20.6 Operational test

For the non-addressable multiplexer select multiplexer 1 and switch the various cameras.
Selecting a different multiplexer (2..99) has no effect for the non-addressable model.
Select multiplexer 1-64 corresponding to the addressable multiplexer and switch the various cameras.

5.20.7 Dedicated functions

As well as the normal input video selection procedure, the SP16C multiplexer is provided with numerous other functions that are shown in the MAIN menu with the same graphics format as the keys on the local keypad.
Refer to the multiplexer manual for further explanations.

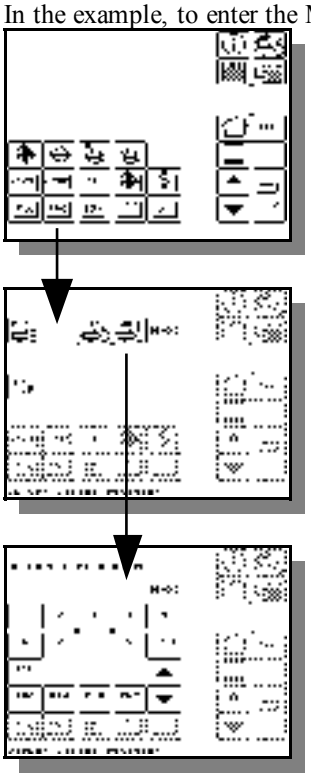
SP16C Multiplexer



5.21 Matrix Setup

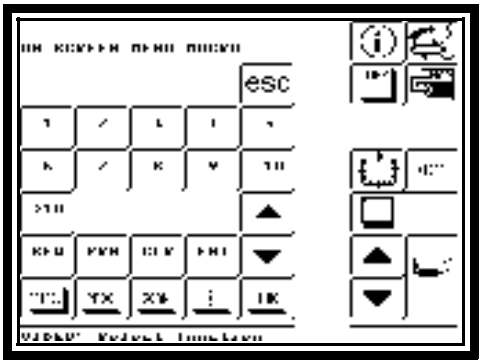
The matrixes can be configured using a special menu that depends on the matrix model setting.
To be able to setup the matrixes from the DCT keyboard matrix/mux setup must be enabled (*see § 4.2.4.5 - Functions, pag.34*).

In the example, to enter the Macro OSM:



MACRO OSM

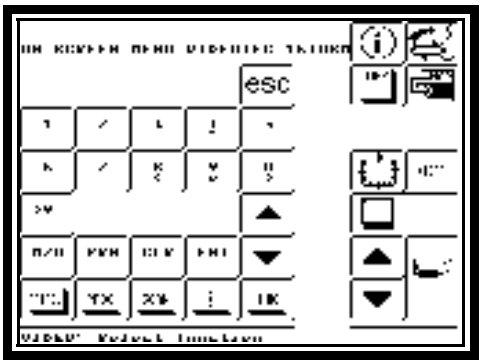
5.21.1 Macro OSM



PRG **ENTER SETUP**
Used to enter the matrix OSM.

The remaining keys with their various meanings are explained in the manual for the specific matrix.

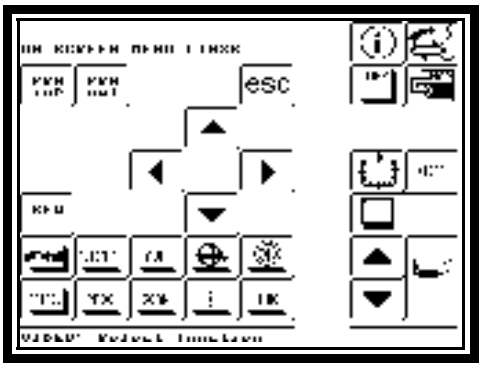
5.21.2 VIDEOTEC 164OSM



ENTER SETUP
Used to enter the matrix OSM.

The remaining keys with their various meanings are explained in the manual for the specific matrix.

5.21.3 OSM LINXS (VIDEOTEC)



ENTER SETUP
Used to enter the matrix OSM.

EXIT SETUP
Used to exit the matrix OSM.

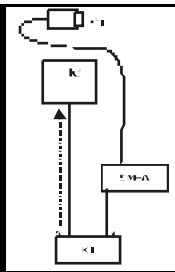
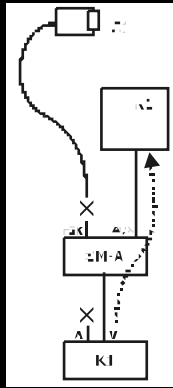
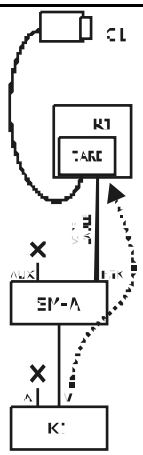
The remaining keys with their various meanings are explained in the manual for the specific matrix.

6 TELEMETRY

6.1 Direct control and control using video systems

The new series of switchers ENEO EKR-8/4, EKR-16/4 and SM VIDEOTEC can be used to create three types of telemetry control systems:

- traditional connection with one video line and two distinct telemetry lines
- connection via video matrix and controls on the matrix AUX output
- connection via video matrix and controls on the video signal cable of the device.

TRADITIONAL		*Traditional type of control, with the keyboard controlling two distinct communication channels: receiver R1 is controlled by keyboard line A; the VIDEO line controls the matrix.* ***ADVANTAGES:*** *the video cable of camera C1 can pass through video signal management devices such as video multiplexers, video distributors, transmitters via twisted pair, etc.* ***DISADVANTAGES:*** *The keyboard has two output cables.*
VIA MATRIX AUX		*Telemetry is controlled via the video matrix AUX output.* *The matrix should be configured to retransmit the telemetry messages.* *The telemetry line A (or B) is configured to transmit messages along the video cable, so that the A (or B) connector on the back of the keyboard cannot be used to address other telemetry devices but should be left disconnected.* ***ADVANTAGES:*** *The keyboard has only one output cable.* *The video cable of camera C1 can pass through video signal management devices such as video multiplexers, video distributors, transmitters via twisted pair, etc.* ***DISADVANTAGES:*** *Only the MACRO protocol can be used for communication between the keyboard and the matrix.*
VIA VIDEO CABLE		*Telemetry is controlled by output signals from the video matrix along the video signal coaxial cable.* *The matrix should be configured to retransmit the telemetry messages in FSK protocol along the video input cables. The video cables from the receivers to the matrix cannot pass through any device (e.g. video distributors) and must be direct.* *The telemetry line A (or B) is configured to transmit messages along the video cable, so that the A (or B) connector on the back of the keyboard cannot be used to address other telemetry devices but should be left disconnected.* ***ADVANTAGES:*** *The keyboard has only one output cable.* ***DISADVANTAGES:*** *The system only functions when receiver R1 is provided with the DTCOAX decoder card (only VIDEOTEC protocol).* *The receiver must be configured locally.* *Communication from the keyboard to the matrix can only use the MACRO protocol.*

6.1.1 Routine management of telemetry controls

Telemetry operations are divided into different types:

- configuration operations (configuration of receiver/dome, preset, etc.)
- manual movement operations (pan & tilt)
- automatic movement operations (autopan, scan, patrol, etc.)
- lens control operations
- relay and auxiliary contact control operations.

The keyboard can be enabled or disabled to accept the request of each group of operations (*see § 4.2.4.5 - Functions, pag.34*). If there is a request for an operation in a disabled group the display shows an error message.
In the following sections the term "receiver" refers to any device that is to receive telemetry controls.

6.1.2 Changing camera

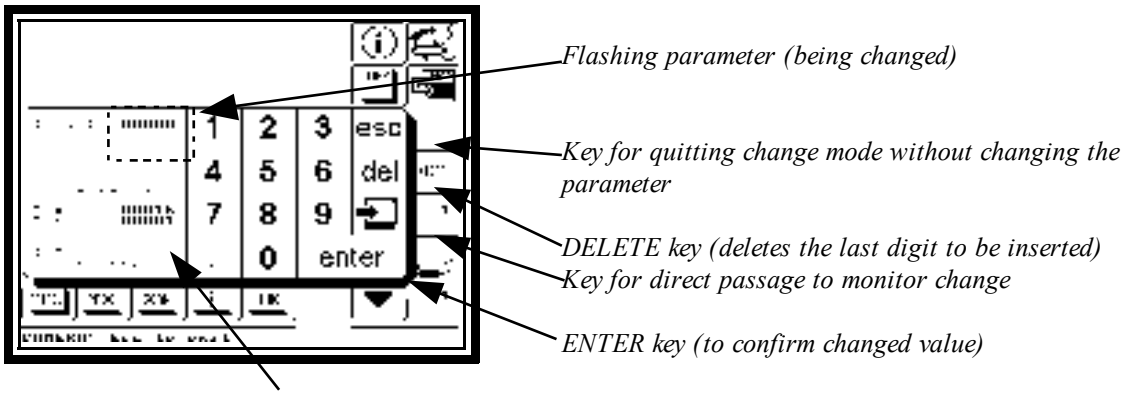
6.1.2.1 Camera and receiver

The video signal from a camera may come from fixed type devices with no control whatsoever or mobile devices (mounted on receivers or domes). In the latter case each device can only be controlled if it is recognised by a unique address within the system.
When a camera is recalled any telemetry controls will be sent to the address associated with that camera.

6.1.2.2 Selecting a camera

To be able to select a camera and operate its telemetry the camera must be accepted (*see §4.2.4 - Accepted values, pag.27*).
Attempts to recall a disabled camera will cause the display of an error message.

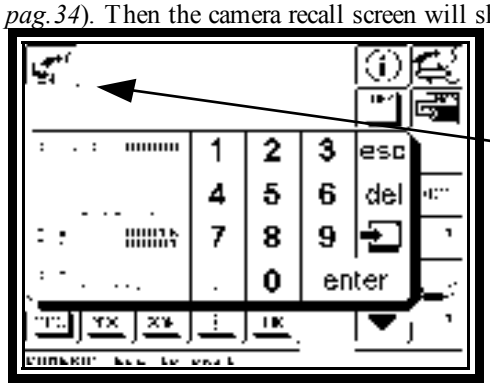
The camera is recalled from the MAIN menu using the corresponding key which has the active camera number. Insert the camera number and confirm with the ENTER key.



6.1.2.3 Change address number associated with the camera

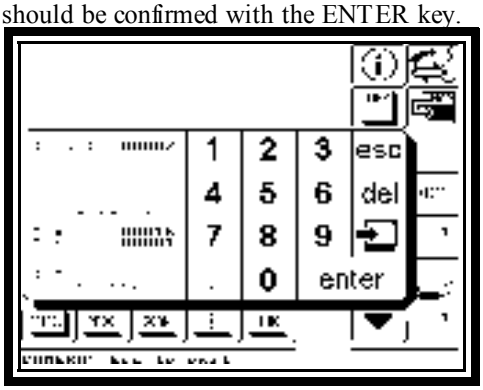
Telemetry controls are always directed towards the active camera shown on the display. But what physical address does it correspond to? The basic system suggests direct assignment so that recalling camera 1 corresponds to the receiver with the physical address setting No. 1 and so on consecutively up to No. 10000. It is possible to change the association between the logical address (camera number) and the physical address (address setting on the dome for RS485).

To be able to change the camera address, CHANGE address must be enabled (*see § 4.2.4.5 - Functions, pag.34*). Then the camera recall screen will show an additional key that gives access to readdress mode.

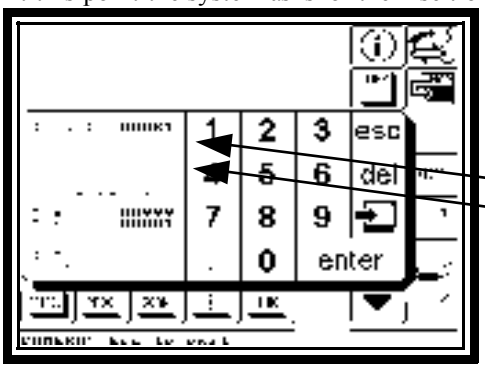


Key for access to readdress mode

When the key has been pressed the screen will ask for the camera number which is to have an address change. In the example, the address of camera No. 2 is to be changed. When the desired number has been keyed in it should be confirmed with the ENTER key.



At this point the system asks for the insertion of the address number. In the example the number is 81.



New camera address
Old camera address

Press the ENTER key.
The system returns to showing the active camera selection screen and camera 2 has address 81.

NOTES:

- ***<u>If the address of the active camera is changed, the camera must be recalled again so as to activate the address change.</u>***
- *The address number should correspond to the address setting for the device to be controlled. Set the DIP SWITCHES of the receiver or dome appropriately.*

6.1.3 Communication problems between keyboard and receiver

If a receiver does not respond to the controls check the following:

- does the receiver model connected to the telemetry line (A or B) use the protocol setting for the telemetry line?
- does the receiver number correspond to the one shown on the display?
- does the receiver baud rate correspond to the setting for the telemetry line?
- does the telemetry line in question output to a video cable or a dedicated connector?
- has the connection between keyboard and receiver been made correctly?
- if passing through an SM matrix, has the matrix been configured correctly?

The information concerning which device is being controlled is easy to obtain by using the key (*see § 4.2.7 - System Information and service menu, pag.42*).

6.1.4 Conventional terminology

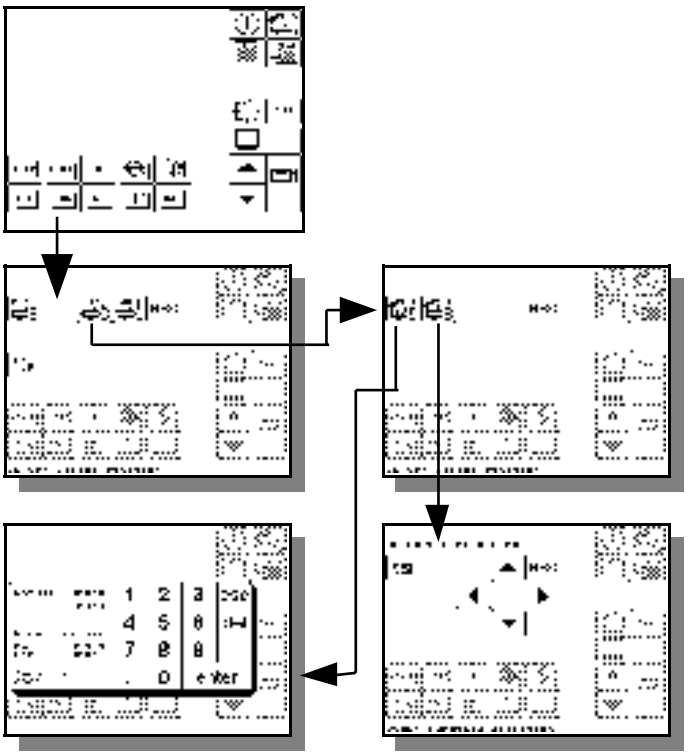
The terms "Video programming", "On Screen Menu" and "OSM" should be considered as equivalent.
In the users' manuals for the domes they are used indifferently.
The term "toggle" means "reverse the status": if a parameter is active, after a "toggle" it will be deactivated and vice versa.
The term "camera" and "telecamera" should be considered as equivalent.

6.1.5 Organising the configuration menus

The domes and receivers can be configured in the following modes:

- On Screen Menu (OSM)
- Special codes

The access menu is organised in the same way for all the devices. The following is an example for a dome.



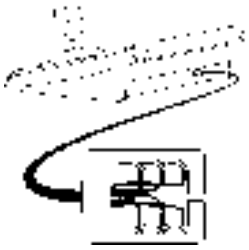
SPECIAL CODES Menu *OSM*

6.2 ELBEX Dome

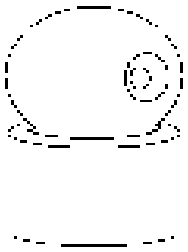
6.2.1 Materials and reference documents

Dome ELBEX EX/EXC 8000 Instant Dome
EMB Camera (R0.70), Camera ID Code Manual for Digital Camera Control
ECC Camera (R0.70), Command Manual for Digital Camera Control, Dec. 18, 2002

6.2.2 Hardware connection to the dome



White	**RS485A**	RS422+
Yellow	**RS485B**	RS422-



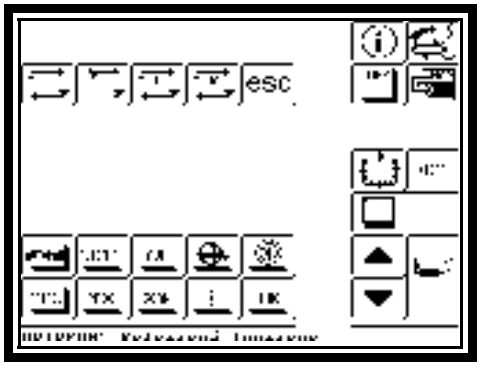
	WARNING *Consult the dome manual for the list of available functions. The access level is 3 (complete control).* *The dome number must be configured correctly. It is not possible to change the dome number by remote control. See the corresponding manual.* *With the particular protocol used by the dome it is not possible to control more than one dome on the same line at the same moment. The ideal situation is to have one control keyboard for each line.*

6.2.3 Configuration

The parameters can be configured by inserting a special code (see the related section).
For all dome configuration operations it is necessary to enable SETUP TELEMETRY.
Connect the dome directly to the keyboard and a monitor to the dome video outlet, following the general procedure (*see § 6.18 - Procedure for setting a dome/receiver in operation, page 191*).

6.2.4 Autopan

From the MAIN menu, press the AUTOPAN button to enter the menu for carrying out the specific function.



START AUTOPAN
Carries out the corresponding function.

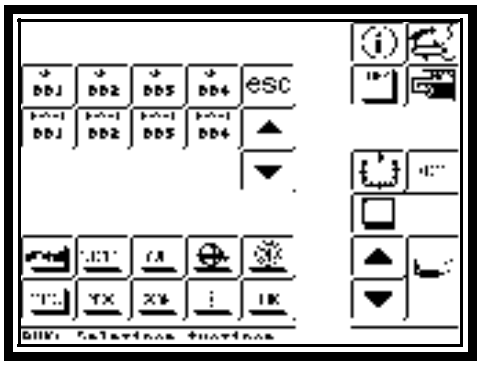
STOP AUTOPAN
Carries out the corresponding function.

START AUTOPAN FROM LEFT
Carries out the corresponding function.

START AUTOPAN FROM RIGHT
Carries out the corresponding function.

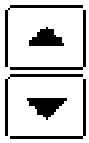
6.2.5 Aux

From the MAIN menu, press the AUX button to enter the menu for carrying out the specific function.



SET No. X
Activates relay No. X

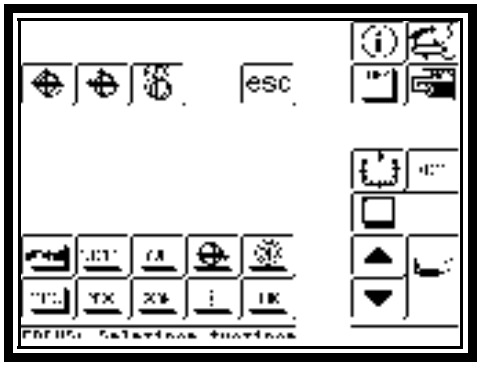
RESET No.
Deactivates relay No. X



UP/DOWN ARROWS
To display the other relays.

6.2.6 Focus

From the MAIN menu, press the FOCUS button to enter the menu for carrying out the specific function.



FOCUS FAR
Activates the FOCUS FAR function

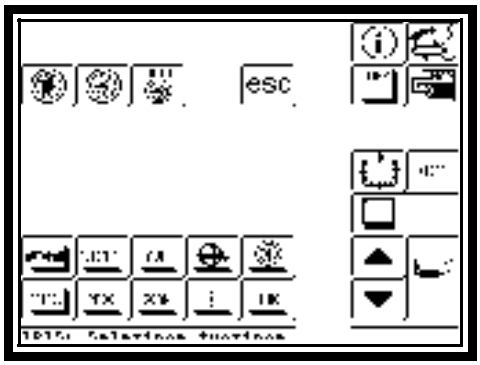
FOCUS NEAR
Activates the FOCUS NEAR function

AUTOFOCUS
Activates the AUTOFOCUS SET function

AUTOFOCUS
Activates the AUTOFOCUS RESET function

6.2.7 Iris

From the MAIN menu, press the IRIS button to enter the menu for carrying out the specific function



IRIS OPEN
Activates the IRIS OPEN function

IRIS CLOSE
Activates the IRIS CLOSE function

AUTOIRIS
Activates the AUTOIRIS SET function

AUTOIRIS
Activates the AUTOIRIS RESET function

6.2.8 Preset, Scan and Home

The PRESET, SCAN and HOME functions are as described in the overall explanation with the following limitations specific to the dome (*see § 4.4.7.1 - Preset, page 47 e see § 4.4.8 - SCAN MENU, page 49*).

Type	*Minimum position*	*Maximum position*	*Notes*
PRESET	*1*	*99*	
	100		*Storage of the local alarm position*
	101	*199*	*Storage of the alarm position*
	101/199		
SCAN	*1*	*99*	
	100		*Movement to the local alarm position*
	101	*199*	*Movement to the alarm position*
HOME			*Execution of SCAN control to position 1.*

6.2.9 Special codes

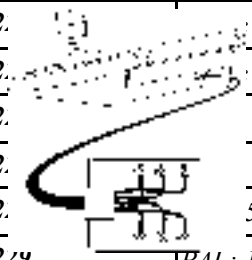
Go to the screen display for inserting the special codes (*see 6.1.5 § - Organising the configuration menus, page 98*).
Some of the parameters can be configured by inserting a special code.

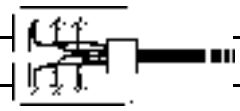
Number	***Function***
SPEED OF DOME MOVEMENT	
0	*Sets to variable speed mode*
1	*Sets to fixed speed mode*
1x	*Sets the fixed speed with x from 1 to 8. (1=low, 8= high).*
VIDEO SIGNAL	
2	*Video signal in colour*
3	*Video signal in black and white*
ZOOM / FOCUS SPEED	
2X	*Zoom speed. (X=1 low speed, X=8 high speed).*
3X	*Focus speed. (X=1 low speed, X=8 high speed).*
WHITE BALANCE	
41	*Automatic*
42	*Manual*
MOVEMENT LIMITS	

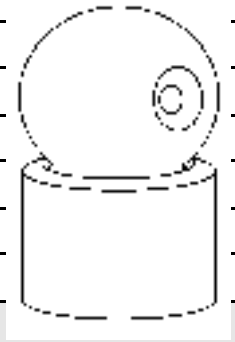
Number	*Function*
51	*Set*
52	*Delete*
53	*Set*
54	*Delete*
AUTOSCAN CONTROL	
61	*Start normal autoscan*
62	*Stop normal autoscan*
63	*Start autoscan at alarm*
64	*Stop autoscan at alarm*
MISC.	
71	*Heating on*
72	*Fan on*
73	*Audio muting: mute*
74	*Light: on*
75	*IR filter: cut filter mode*
81	*Heating off*
82	*Fan off.*
83	*Audio muting: normal*
84	*Light: off*
85	*IR filter: focus filter mode*
PRESET POSITIONS	
1000	*Add all preset positions*
10XX	*(1÷99): add a preset position*
1100	*Remove all preset positions*
11XX	*(1÷99): remove a preset position*
12XX	*(1÷99): dwell time after each position in seconds*
1300	*Movement at maximum speed*
130X	*(1÷8) reduced speed of movement*
ALARM POSITIONS	
2000	*Add all alarm positions*
20XX	*(1÷99): add an alarm position*
2100	*Remove all alarm positions*
21XX	*(1÷99): remove an alarm position*
22XX	*(1÷99): dwell time after each position in seconds*

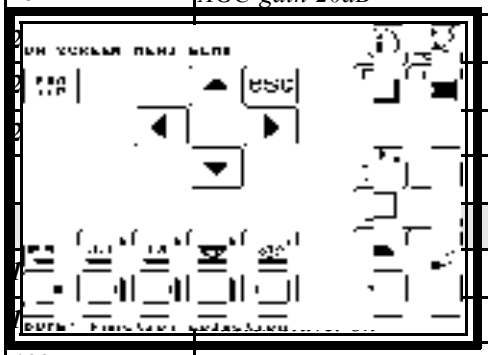
Number	*Function*
2300	*Movement at maximum speed*
230X	*(1÷8) reduced speed of movement*
TIMER FUNCTIONS	
40XX	*(00÷56): stop autopan* *00: continuous; 01÷23: from 5 to 115 minutes (step=5 minutes); 24÷44: from 2 to 12 hours (step=30 minutes); 45÷56: from 13 to 24 hours (step=1 hour)*
4XXX	*(1÷8, 00÷28): reset aux. contacts* *The first X digit indicates contact number 1÷8, the last two indicate the time:* *00: continuous; 01÷05: from 1 to 5 minutes (step=1 minute); 06÷15: from 10 to 55 minutes (step=5 minutes); 16÷27: from 1 to 12 hours (step=1 hour); 28: 24 hours*
49XX	*(00÷28): stop wiper**
50XX	*(00÷28): stop pump**
51XX	*(00÷28): stop lighting**
52XX	*(00÷28): stop heating**
53XX	*(00÷28): stop fan** **) 00: continuous; 01÷04: from 5 to 20 seconds (step=5 seconds); 05: 30 seconds; 06: 45 seconds; 07÷11: from 1 to 5 minutes (step=1 minute); 12: 10 minutes; 13: 15 minutes; 14: 30 minutes; 15: 45 minutes; 16÷27: from 1 to 12 hours (step=1 hour)*
60XX	*(00÷37): return to home position (preset number 1)* *00: function disabled; 01÷06: from 5 to 30 seconds (step=5 seconds); 07: 45 seconds; 08÷16: from 1 to 9 minutes (step=1 minute); 17÷26: from 10 to 55 minutes (step=5 minutes); 27÷32: from 60 to 110 minutes (step=10 minutes); 33÷37: from 2 hours to4 hours (step=30 minutes).*
DIGITAL ZOOM	
90	*Off*
91	*On*
92	*4x*
93	*16x*
SHUTTER	
200	*Off*
201	*On*
202	*Automatic*
	High Speed
211	*Flickerless (PAL: 1/120sec, NTSC: 1/100sec)*
212	*1/125sec*
213	*1/250sec*
214	*1/500sec*
215	*1/1000sec*
216	*1/2000sec*

Number	*Function*
217	*1/4000sec*
218	*1/10000sec*
	Slow Speed
221	*PAL: 1/25sec NTSC:1/30sec*
222	*PAL:1/12.5sec NTSC: 1/15sec*
223	*1/8sec*
2	
2	
2	
2	
2	*5sec NTSC:4sec*
229	*PAL: 10sec NTSC:8sec*
AUTO SLOW SHUTTER	
230	*Auto slow shutter: standard*
231	*Auto slow shutter: BLC priority*
232	*Auto slow shutter: slow*
23	*Auto slow shutter: high speed*
241	*Maximum sensitivity*
242	*High sensitivity*
243	*Standard sensitivity*
244	*Minimum sensitivity*
251	*Minimum speed 1 sec*
252	*Minimum speed 2 sec*
253	*Minimum speed 4 sec*
254	*Minimum speed 8 sec*
261	*AGC gain 20dB*
103	*Frame control: on*
	Home position: set
105	*Freeze: on*
106	*Cross Control: on*

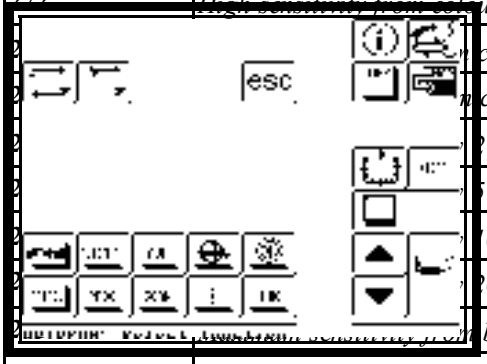








er	***Function***
	Control: off
	Master/slave: off
113	*Frame control: off*
	Home position: recall
	Freeze: off
116	*Cross Control: off*
	A SWITCHOVER (COLOUR / B/W)
43	*Automatic switchover*
44	*Manual switchover*
271	*Maximum sensitivity from colour to b/w*
272	*High sensitivity from colour to b/w*
	colour to b/w
	colour to b/w
	minutes
	minutes
	0 minutes
	0 minutes
	b/w to colour
282	*High sensitivity from b/w to colour*
	Standard sensitivity from b/w to colour
284	*Minimum sensitivity from b/w to colour*
	Time from b/w to colour 2 minutes
286	*Time from b/w to colour 5 minutes*
	Time from b/w to colour 10 minutes
	Time from b/w to colour 20 minutes
BACKLIGHT COMPENSATION	
300	*BLC: Off*
301	*BLC: Manual*
302	*BLC: Automatic*
330	*Histogram: Off*
331	*Histogram: On*
4XX	*Histogram: (level 00÷13)*

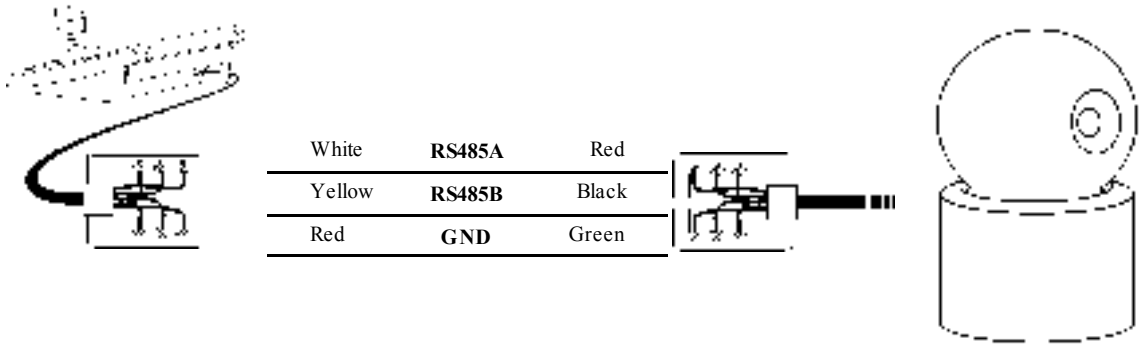


6.3 ELMO Dome

6.3.1 Materials and reference documents

D7720B-J1P Dome
Surveillance Control Protocol (DSCP), ver2.4, 2001.05.25

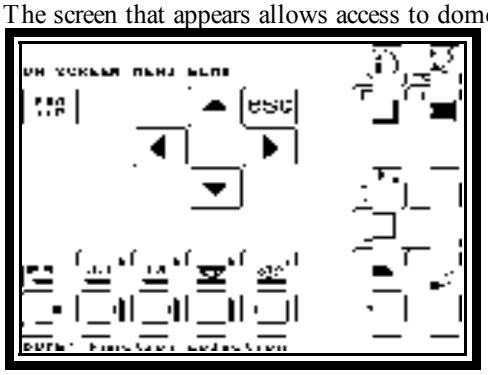
6.3.2 Connecting the dome hardware



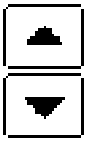
WARNING
Both telephone cables (the one connected to the keyboard and also the one connected to the dome) are those supplied as accessories to the DCT keyboard!
DO NOT USE the grey telephone cable supplied with the Elmo dome. Using the grey cable (with the consequent pin connection error shown in the diagram) may damage the keyboard, because the dome also supplies 12VDC power along the RJ11 connector as well as the usual RS485 signals.

6.3.3 Configuration

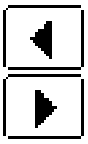
The dome is mostly configured by On Screen Menu.
Some parameters can be configured by inserting a special code.
For all dome configuration operations SETUP TELEMETRY must be enabled.
Connect the dome directly to the keyboard and a monitor to the dome video output following the general procedure (*see § 6.18 - Procedure for setting a dome/receiver in operation, pag.191*).
Go to the dome OSM configuration screen.
The screen that appears allows access to dome OSM configuration.



ENTER/EXIT PROGRAMMING AND CONFIRM "ENTER"
Used to enter the dome OSM menu and submenus.



UP/DOWN ARROWS
To shift within the dome menus.

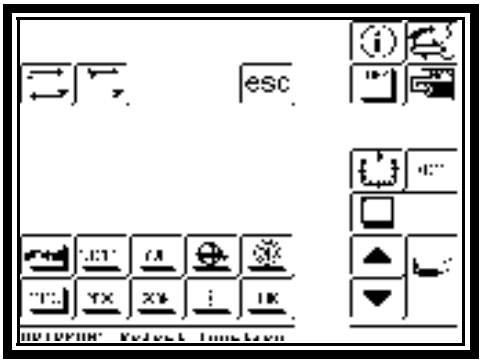


LEFT/RIGHT ARROWS
To change the value indicated by the cursor.

	When required, Zoom Tele and Zoom Wide are activated by rotating the joystick. *See the dome manual for the correct parameter settings.*

6.3.4 Autopan

From the MAIN menu press the AUTOPAN key to enter the menu for carrying out the specific function.



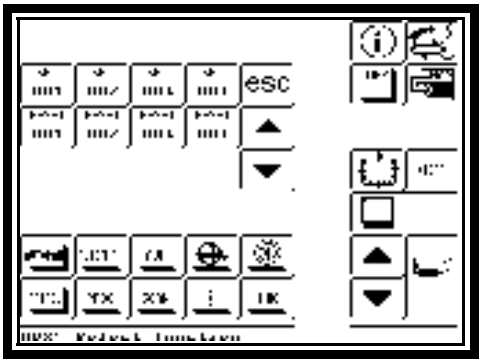
START AUTOPAN
Carries out the corresponding function.

STOP AUTOPAN
Stop the AUTOPAN function. AUTOPAN will stop when one of the two limit switches is reached.

	The path to be taken is set up using special codes. *Activating Zoom Tele and Wide does not stop the dome movement in progress.*

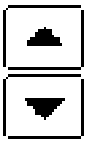
6.3.5 Aux

From the MAIN menu press the AUX key to enter the menu for carrying out the specific function.



SET No. X
Activates relay No. X

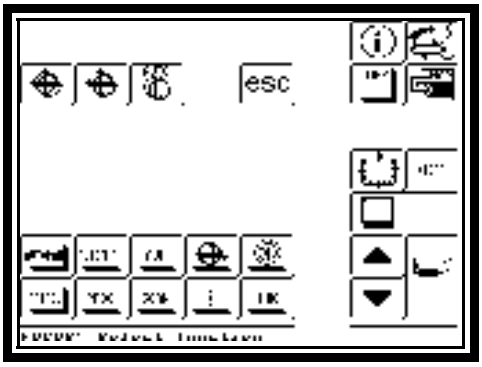
RESET No.
Deactivates relay No. X



UP/DOWN ARROWS
To show the other relays.

6.3.6 Focus

From the MAIN menu press the FOCUS key to enter the menu for carrying out the specific function.



FOCUS FAR
Activates the FOCUS FAR function

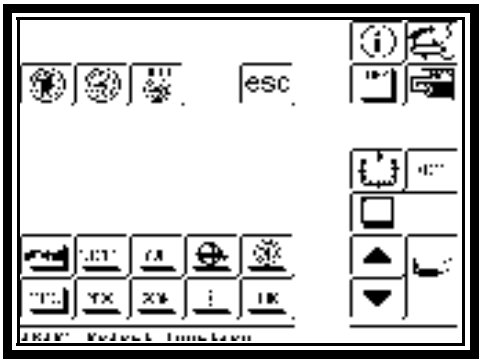
FOCUS NEAR
Activates the FOCUS NEAR function

AUTOFOCUS TOGGLE
Activates/deactivates the AUTOFOCUS function

When AUTOFOCUS is activated the FOCUS FAR and FOCUS NEAR keys have no effect on the dome.

6.3.7 Iris

From the MAIN menu press the IRIS key to enter the menu for carrying out the specific function.



IRIS OPEN
Activates the IRIS OPEN function

IRIS CLOSE
Activates the IRIS CLOSE function

AUTOIRIS
Activates the AUTOIRIS function

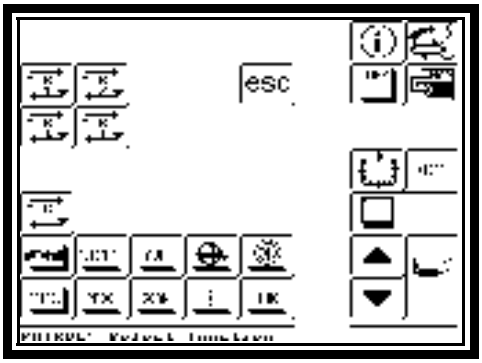
6.3.8 Preset, Scan and Home

The PRESET, SCAN and HOME functions are as described in the general explanation with the following limitations specific to the dome (*see § 4.4.7.1 - Preset, pag.47 e see § 4.4.8 - SCAN MENU, pag.49*).

Type	*Minimum position*	*Maximum position*	*Notes*
PRESET	*1*	*128*	
SCAN	*1*	*128*	
HOME			*Recalls a PRESET position set using the dome OSM.* *See the specific manual for the dome.*

6.3.9 Patrol

From the MAIN menu press the PATROL key to enter the menu for carrying out the movement controls.



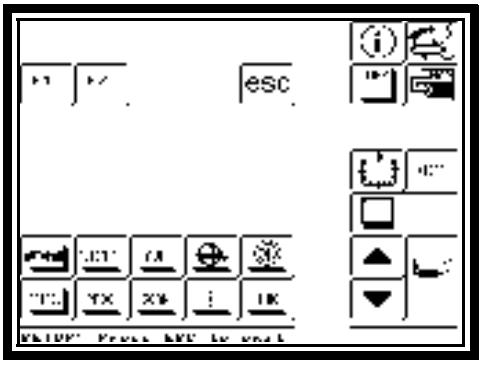
START SEQUENCE 1…4
Used to carry out the corresponding sequences.

START CRUISE
Used to carry out the "CRUISE" function.

	The settings for the sequences and for cruise are made using the dome OSM. *Refer to the dome manual.*

6.3.10 Function keys

From the MAIN menu press the FUNCTION KEYS key to enter the menu for carrying out the specific controls.



F1
Associated function: "line lock incr".

F2
Associated function: "line lock decr".

	Refer to the dome manual.

6.3.11 Special codes

Go to the special code insertion screen (*see § 6.1.5 - Organising the configuration menus , pag.98*).
Some parameters can be configured by inserting a special code.

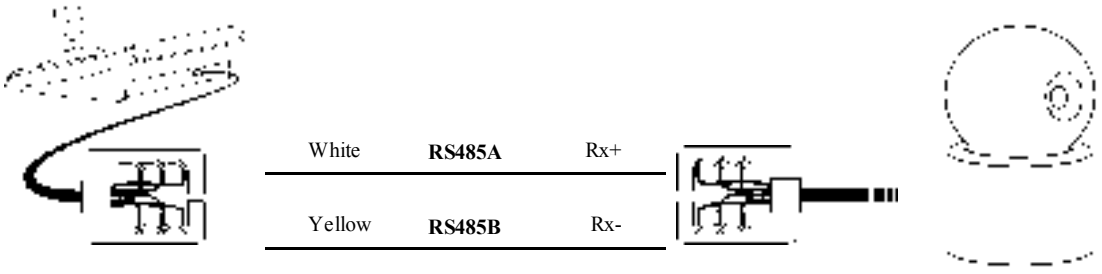
Number	***Function***
AUTOPAN	
400	*Store the current position as the first limit switch*
401	*Store the current position as the second limit switch*
402	*The movement is made to the right*
403	*The movement is made to the left*
41X	*X=1..4 autopan speed from slow (X=1) to fast(X=4)* *Note: the change in speed is used the next time autopan is restarted*
SCAN	
X	*X=1..128 slow scan to preset position X*
SEQUENCES AND CRUISE	
20X	*X=1..4 start sequence number X*
300	*Cruise function on*
OTHER FUNCTIONS	
350	*Identification text hidden*
351	*Identification text shown*
360	*Title hidden*
361	*Title shown*
9999	*Dome reset*

6.4 ERNITEC SATURN Dome

6.4.1 Materials and reference documents

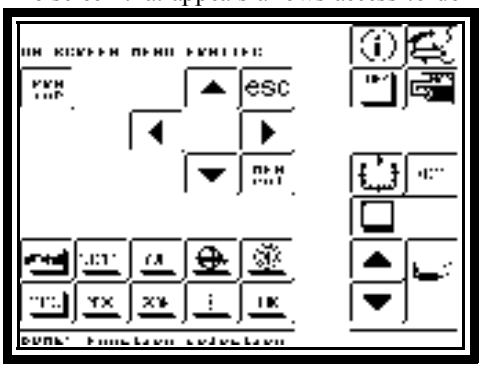
Ernitec Saturn Dome
ICU Installation Instruction, Manual No.3040-00014, Rev.980220

6.4.2 Connecting the dome hardware

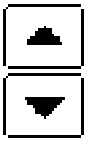


6.4.3 Configuration

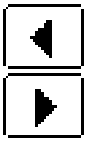
The dome is mostly configured by On Screen Menu.
Some parameters can be configured by inserting a special code.
For all dome configuration operations SETUP TELEMETRY must be enabled.
Connect the dome directly to the keyboard and a monitor to the dome video output following the general procedure (*see § 6.18 - Procedure for setting a dome/receiver in operation, pag.191*). Go to the dome OSM configuration screen.
The screen that appears allows access to dome OSM configuration.



ENTER PROGRAMMING
Used to enter the dome OSM.

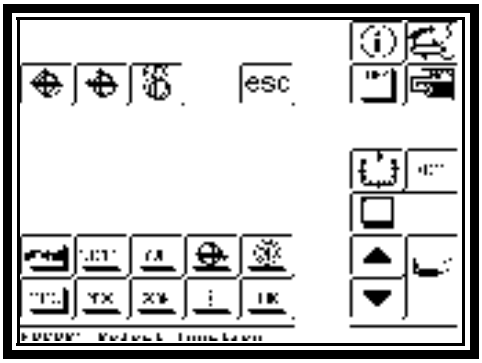


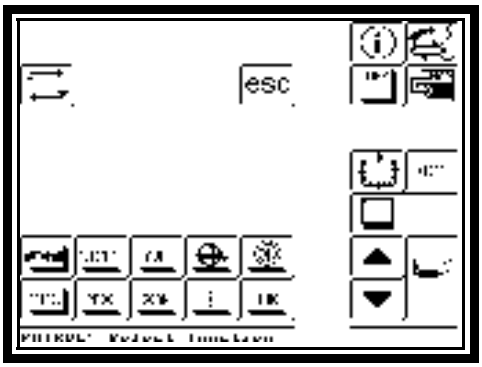
UP/DOWN ARROWS
To shift within the dome menus and change the values



LEFT/RIGHT ARROWS
Correspond to the *Previous* and *Next* keys shown in the dome manual.

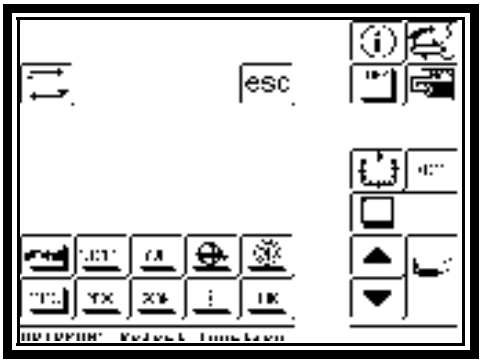
ENTER MENU
Used to enter the submenus and to confirm data changes.


esc


esc

6.4.4 Autopan

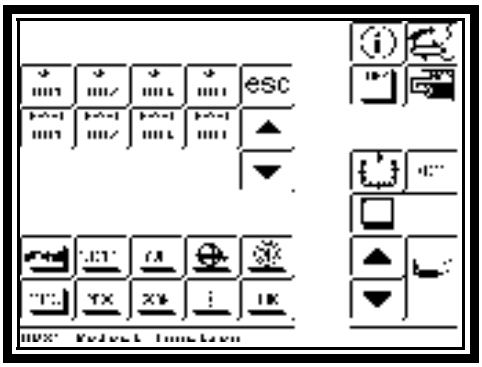
From the MAIN menu press the AUTOPAN key to enter the menu for carrying out the specific function.



START AUTOPAN
Carries out the corresponding function.

6.4.5 Aux

From the MAIN menu press the AUX key to enter the menu for carrying out the specific function.



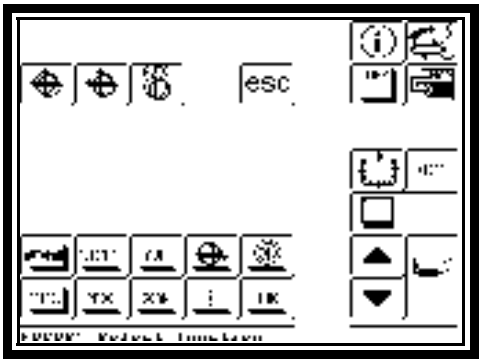
SET No. X
Activates relay No. X

RESET No.
Deactivates relay No. X

UP/DOWN ARROWS
To display the other relays.

6.4.6 Focus

From the MAIN menu press the FOCUS key to enter the menu for carrying out the specific function.



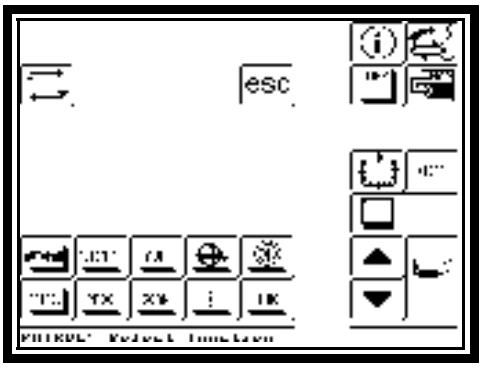
FOCUS FAR
Activates the FOCUS FAR function

FOCUS NEAR
Activates the FOCUS NEAR function

AUTOFOCUS
Activates the AUTOFOCUS function

6.4.7 Iris

From the MAIN menu press the IRIS key to enter the menu for carrying out the specific function.



IRIS OPEN
Activates the IRIS OPEN function

IRIS CLOSE
Activates the IRIS CLOSE function

AUTOIRIS
Activates the AUTOIRIS function

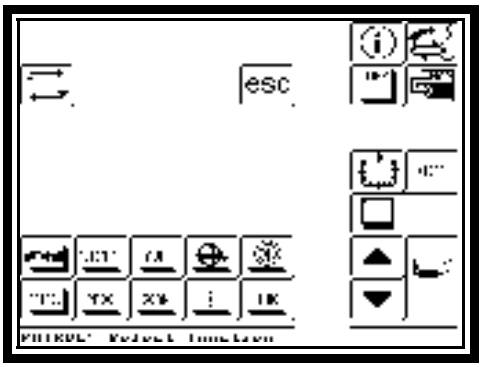
6.4.8 Preset, Scan and Home

The PRESET, SCAN and HOME functions are as described in the general explanation with the following limitations specific to the dome (*see § 4.4.7.1 - Preset, pag.47 e see § 4.4.8 - SCAN MENU, pag.49*).

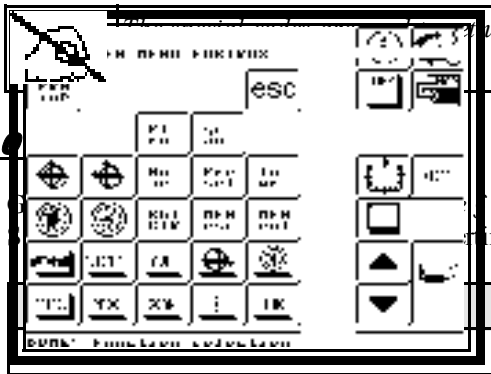
Type	*Minimum position*	*Maximum position*	*Notes*
PRESET	*1*	*128*	
SCAN	*1*	*128*	
HOME			*Carries out the SCAN function to position 1.*

6.4.9 Patrol

From the MAIN menu press the PATROL key to enter the menu for carrying out the movement controls.



START PATROL
Used to carry out the corresponding function.



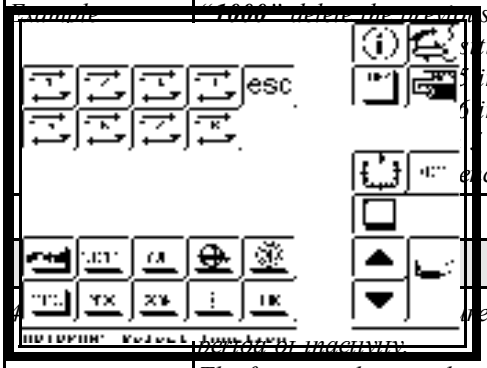
up the patrol sequence positions.

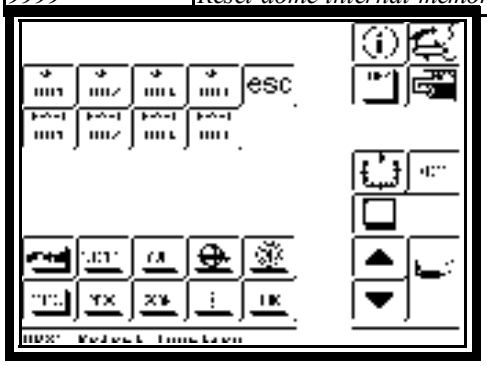
6.4.10

6.1.5 - Organising the configuration menus , pag.98).
ng a special code.

AUTOPAN	
301	*Store the current position as the first limit switch*
302	*Store the current position as the second limit switch*
XXX	*X=0..255 autopan speed from slow (X=0) to fast (X=255);* *Note: not available on the Saturn model*
PATROL	
1000	*Delete Patrol sequence*
1XXX	*X=1..128 insert Preset position X in the Patrol sequence*
2000	*Show the Patrol sequence*

2XXX	*X=1..128 delete Preset position X from the Patrol sequence*
3XXX	*X=0..255 assign a pause (dwell time) in seconds when the position is reached*
Example	*"1000" delete the previously defined sequence* *"1001" assign position 1 in the sequence* *"2002" delete position 2 in the sequence* *"3005" assign a pause of 5 in the sequence* *"0000" exit the sequence* *For more info see (see § 6.4.9 -Patrol, pag.117).*
4216	*The dome is configured to move automatically to a "return position" after a set period of inactivity.* *The first two digits indicate the return position to be considered (only positions from 01 to 99 are accepted, positions from 100 to 128 cannot be selected)* *the third digit indicates the return time:* *0: 10 seconds, 1: 20 seconds, 2: 30 seconds,* *3: 40 seconds, 4: 1 minute, 5: 2 minutes,* *6: 5 minutes, 7: 10 minutes, 8: 20 minutes,* *9: 40 minutes* *For example, the code 4216 will configure the dome to return to position 21 (**21**) after 5 minutes (**6**) of inactivity.* *The code "**4000"** disables the return position.*
400	*Text shown/hidden (toggle)*
500	*Backlight compensation on/off (toggle)*
9999	*Reset dome internal memory*



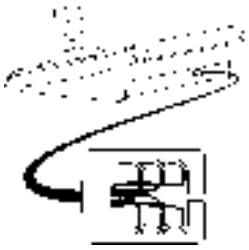


6.5 HITRON FASTRAX II Dome

6.5.1 Materials and reference documents

Dome HITRON Fastrax II HID2404SM11P
(HID-2404) Protocol and Examples

6.5.2 Connecting the dome hardware

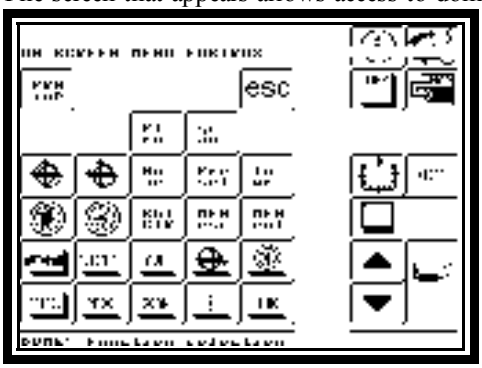


White	**RS485A**	TX+
Yellow	**RS485B**	TX-

IMPORTANT NOTE
Configure inside the dome the Fastrax II Protocol.

6.5.3 Configuration

The dome is mostly configured by On Screen Menu.
For all dome configuration operations SETUP TELEMETRY must be enabled.
Connect the dome directly to the keyboard and a monitor to the dome video output following the general procedure (*see § 6.18 - Procedure for setting a dome/receiver in operation, pag.191*).
Go to the dome OSM configuration screen.
The screen that appears allows access to dome OSM configuration.

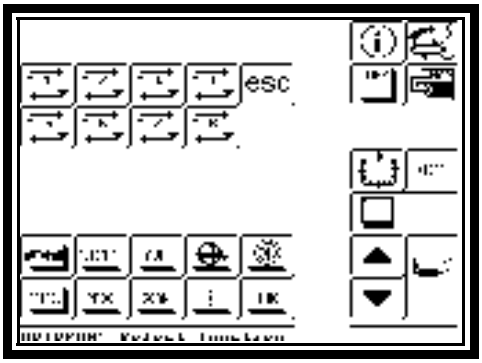


ENTER PROGRAMMING
Used to enter the dome OSD

The remaining keys have the same functions as those of the original keyboard. The reader should refer to the specific manual for the dome.

6.5.4 Autopan

From the MAIN menu press the AUTOPAN key to enter the menu for carrying out the specific function.

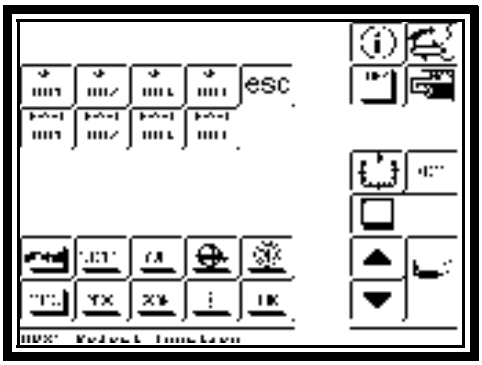


START AUTOPAN 1... 8
Carries out the corresponding function.

	Important note: *'autopan' means the movement shown by the dome as 'auto scan'* *The only way to stop a movement in progress is to operate the joystick (Pan or Tilt movements).*

6.5.5 Aux

From the MAIN menu press the AUX key to enter the menu for carrying out the specific function.

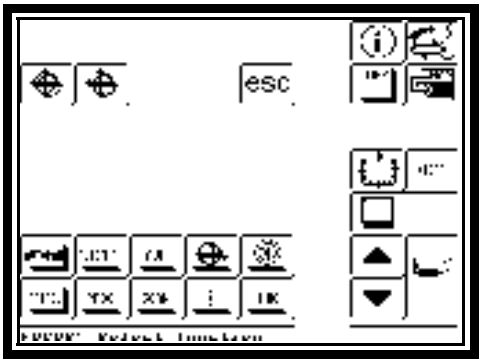


SET No. X
Activates relay No. X

RESET No.
Deactivates relay No. X

6.5.6 Focus

From the MAIN menu press the FOCUS key to enter the menu for carrying out the specific function.

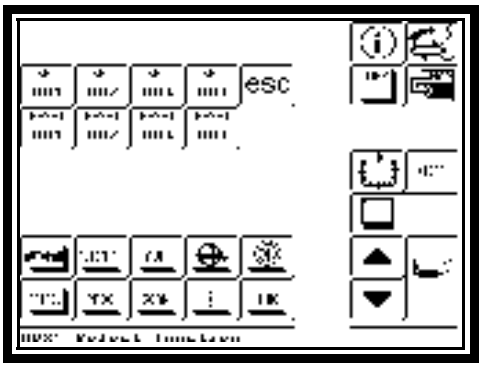


FOCUS FAR
Activates the FOCUS FAR function

FOCUS NEAR
Activates the FOCUS NEAR function

6.5.7 Iris

From the MAIN menu press the IRIS key to enter the menu for carrying out the specific function.



IRIS OPEN
Activates the IRIS OPEN function

IRIS CLOSE
Activates the IRIS CLOSE function

6.5.8 Preset, Scan and Home

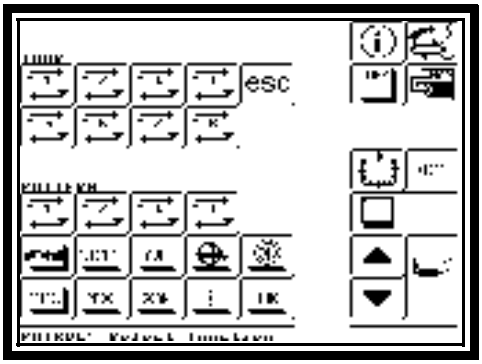
	Important note! *The 'Scan' instructions given in the dome manual do not correspond to the generally accepted usage in this manual: for practical purposes the functions take on the 'standard' meaning and not those suggested by the dome manual:* ◆ *'preset' means to store the current position* ◆ *'scan' means the pan & tilt movement to a previously stored position; in the dome manual this position is called 'preset'* ◆ *'autopan' means the dome movement described as 'auto scan'*

The PRESET, SCAN and HOME functions are as described in the general explanation with the following limitations specific to the dome (*see § 4.4.7.1 - Preset, pag.47 e see § 4.4.8 - SCAN MENU, pag.49*).

Type	*Minimum position*	*Maximum position*	*Notes*
PRESET	*1*	*240*	
SCAN	*1*	*240*	*In the event of joystick operation the dome carries out the movement in progress until it reaches the recalled preset position.*
HOME			*Carries out the function specified in OSD*

6.5.9 Patrol (Tour and Pattern)

From the MAIN menu press the PATROL key to enter the menu for carrying out the movement controls.



START TOUR/PATTERN
Used to carry out PATROL.

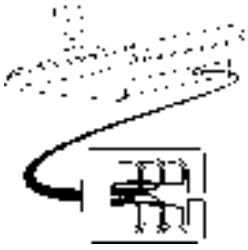
	The only way to stop the movement in progress is to operate the joystick (Pan or Tilt movements)

6.6 JVC Dome

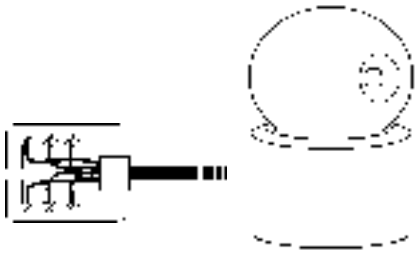
6.6.1 Materials and reference documents

JVC TK-C675 Dome
TK-C675 Programmer's manual, version 1.00/Feb.1998
TK-C675/C675B Programmer's manual (supplement), version 0.01/Dec.1998
JVC CCTV Serial Communication Protocol, Basic Protocol Reference, version 2, Jan.1998

6.6.2 Connecting the dome hardware

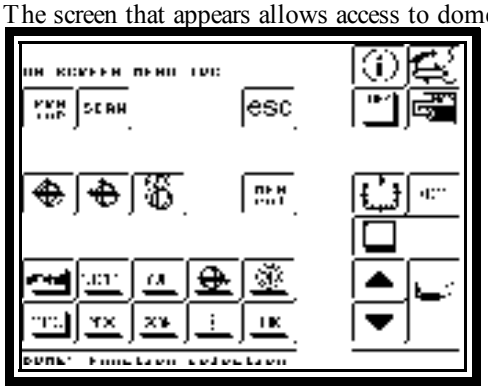


White	**RS485A**	Rx+
Yellow	**RS485B**	Rx-



6.6.3 Configuration

The dome is mostly configured by On Screen Menu.
Some parameters can be configured by inserting a special code.
For all dome configuration operations SETUP TELEMETRY must be enabled.
Connect the dome directly to the keyboard and a monitor to the dome video output following the general procedure (*see § 6.18 - Procedure for setting a dome/receiver in operation, pag.191*).
Go to the dome OSM configuration screen.
The screen that appears allows access to dome OSM configuration.



ENTER/EXIT PROGRAMMING
Used to enter and exit the dome OSM.

SCAN KEY
To be used in the dome AUTOPATROL menu to indicate the chosen PRESET position.

FOCUS FAR
To be used as indicated in the dome manual.

FOCUS NEAR
To be used as indicated in the dome manual.

FOCUS AUTOFOCUS
To be used as indicated in the dome manual.

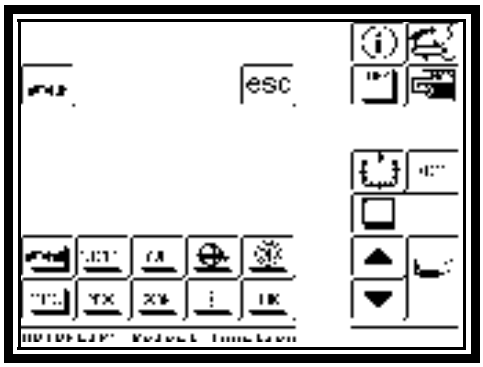
ENTER MENU

Used to enter the submenus and confirm data changes.

To move within the menus use the joystick.
The ZOOM is to be used as indicated in the dome manual..
***Warning:** if special codes **9** or **10** have been sent it is impossible to enter OSM mode. Special code **11** must be sent.*

6.6.4 Autoflip

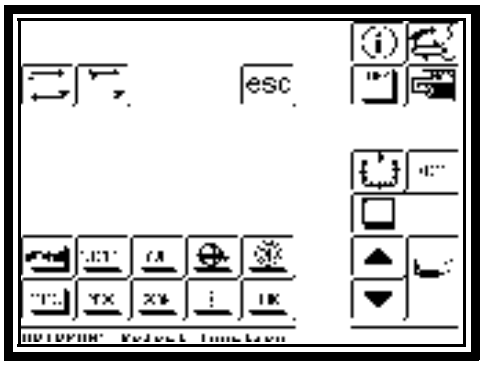
From the MAIN menu press the AUTOFLIP key to enter the menu for carrying out the specific function.



START AUTOFLIP
Carries out the corresponding function.

6.6.5 Autopan

From the MAIN menu press the AUTOPAN key to enter the menu for carrying out the specific function.

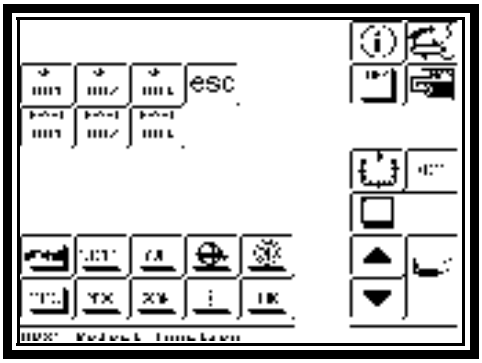


START AUTOPAN
Carries out the corresponding function.

STOP AUTOPAN
Stops the AUTOPAN function.

6.6.6 Aux

From the MAIN menu press the AUX key to enter the menu for carrying out the specific function.

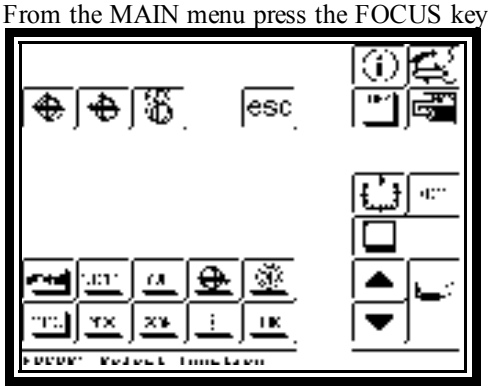


SET No. X
Activates relay No. X

RESET No.
Deactivates relay No. X

6.6.7 Focus

From the MAIN menu press the FOCUS key to enter the menu for carrying out the specific function.



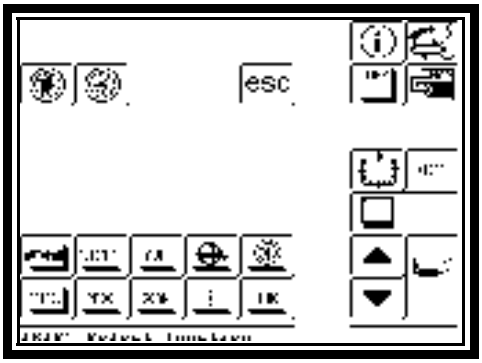
FOCUS FAR
Activates the FOCUS FAR function

FOCUS NEAR
Activates the FOCUS NEAR function

AUTOFOCUS
Activates the AUTOFOCUS function

6.6.8 Iris

From the MAIN menu press the IRIS key to enter the menu for carrying out the specific function.

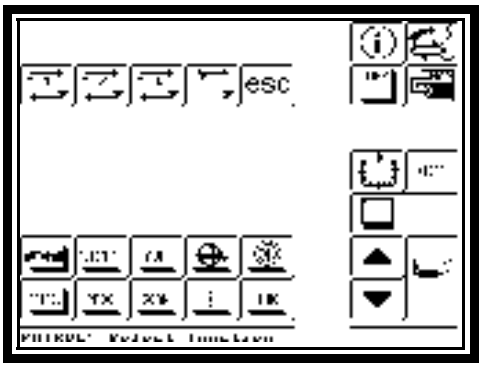


IRIS OPEN
Activates the IRIS OPEN function

IRIS CLOSE
Activates the IRIS CLOSE function

6.6.9 Patrol

From the MAIN menu press the PATROL key to enter the menu for carrying out the movement controls.



START PATROL 1…3
Used to carry out the corresponding Patrol.

STOP PATROL
Used to stop the function in progress.

If this function has been activated, it can only be stopped by the STOP PATROL keys. If the joystick is operated the dome will proceed with the active PATROL.
The settings for the positions are made using the dome OSM.

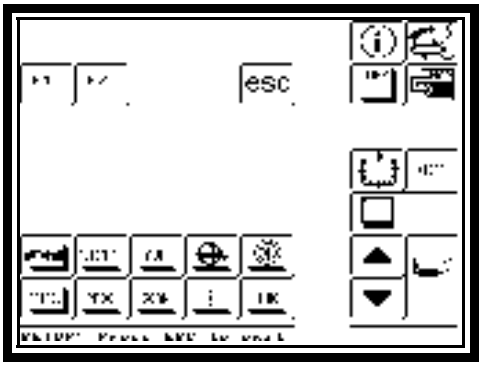
6.6.10 Preset, Scan and Home

The PRESET, SCAN and HOME functions are as described in the general explanation with the following limitations specific to the dome (*see § 4.4.7.1 - Preset, pag.47 e see § 4.4.8 - SCAN MENU, pag.49*).

Type	*Minimum position*	*Maximum position*	*Notes*
PRESET	*1*	*63*	
SCAN	*1*	*63*	
HOME			*Recalls a specific position defined using the function keys F1/F2.* *Refer to the specific dome manual.*

6.6.11 Function keys

From the MAIN menu press the FUNCTION KEYS key to enter the menu for carrying out the specific controls.



F1
Associated function: stores the Home position.

F2
Associated function: resets the Home position.

Refer to the dome manual.

6.6.12 Special codes

Go to the special code insertion screen (*see § 6.1.5 - Organising the configuration menus , pag.98*).
Some parameters can be configured by inserting a special code.

Number	***Function***
AUTOPAN	
1	*Consider the current position as the first limit switch*
2	*Consider the current position as the second limit switch*
3	*Show the position of the first limit switch.*
4	*Show the position of the second limit switch.*
AUTOFLIP	
5	*Enable the AUTOFLIP function.*
6	*Disable the AUTOFLIP function.*
PATROL	
21	*Start PATROL sequence 1. Equivalent to the key in the PATROL menu.*
22	*Start PATROL sequence 2. Equivalent to the key in the PATROL menu.*
23	*Start PATROL sequence 3. Equivalent to the key in the PATROL menu.*
ON SCREEN INFORMATION	
7	*Enable "TITLE AREA " display*
8	*Disable "TITLE AREA " display*
9	*Enable on screen display of information relating to the camera*
10	*Enable on screen display of service information*
11	*Disable all on screen display of information*
12	*Enable "EVENT DISPLAY MODE"*
13	*Disable "EVENT DISPLAY MODE"*
SET ZOOM SPEED	
7X *X=1..4*	*71 = minimum speed, 74 = maximum speed*
SET FOCUS SPEED	
8X *X=1..4*	*81 = minimum speed, 84 = maximum speed*

6.7 PANASONIC Domes

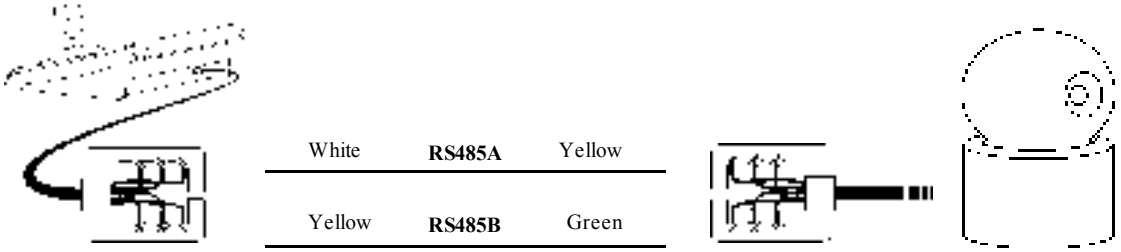
6.7.1 Materials and reference documents

Panasonic WV-CS600 and Panasonic WV-CS850 Domes
Protocol Information WV-CS850 ver 2.2, Nov.28, 2001
Protocol Information WV-CSR600, WV-CSR400, WV-BSR300 ver 5.3, Nov.27, 1997

6.7.2 Important note regarding the protocols

The Panasonic protocols allow the control of a range of domes with somewhat different specifications. Because the complete protocols have been implemented, it is possible that the controls described below can be used for both the WV-CS600 and WV-CS850 models, or are specific to only one model. Wherever possible, this distinction is made in the following sections. Nevertheless, we advise checking the manual of the dome that is to be controlled, to find out which controls are actually available.

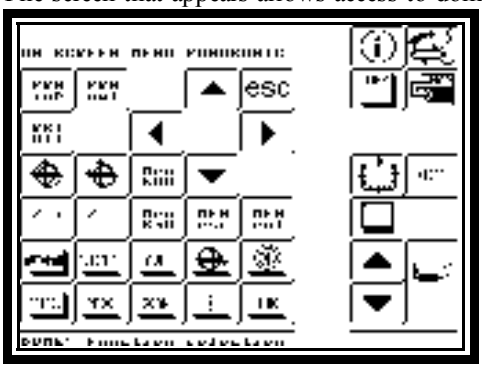
6.7.3 Connecting the dome hardware



⚠	***IMPORTANT NOTE*** *Even though the two Panasonic dome control protocols (Panas600 and Panas850) are compatible to a certain extent, choosing the more appropriate protocol will improve control of the dome.* *Set "Conventional Protocol ", LOCAL (not REMOTE)* *8 data bits, no parity, 1 stop bit , Full Duplex Wait time = 0*

6.7.4 Configuration

The dome is mostly configured by On Screen Menu.
Some parameters can be configured by inserting a special code.
For all dome configuration operations SETUP TELEMETRY must be enabled.
Connect the dome directly to the keyboard and a monitor to the dome video output following the general procedure (*see § 6.18 - Procedure for setting a dome/receiver in operation, pag.191*).
Go to the dome OSM configuration screen.
The screen that appears allows access to dome OSM configuration.



ENTER PROGRAMMING
Used to enter the dome OSD menu.

EXIT PROGRAMMING
Used to exit the dome OSD menu.

RESET ALL
Reset all

SPECIAL MENU 600/850
To be used to enter the SPECIAL dome menus (camera).

ESC MENU
Used to exit the submenus.

ENTER MENU
Used to enter the submenus and to confirm data changes.

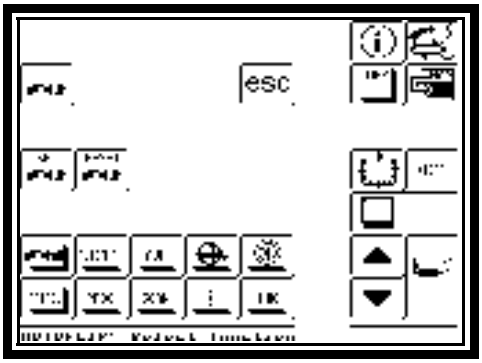
FOCUS NEAR/FAR
Carries out the FOCUS NEAR and FOCUS FAR. functions

ZOOM+/-
Carries out the ZOOM+ and ZOOM- functions.

UP / DW / LFT / RGT
Arrow Up, Down, Left and Right respectively, to be used to move within the menus.

6.7.5 Autoflip

From the MAIN menu press the AUTOFLIP key to enter the menu for carrying out the specific function.



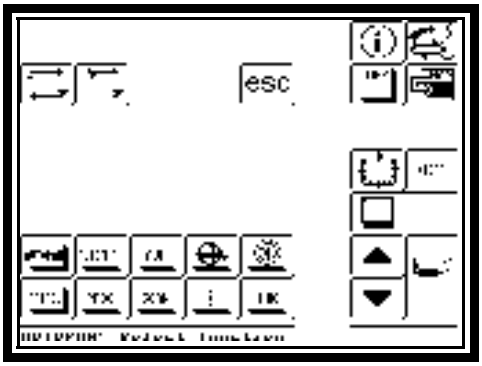
START AUTOFLIP
Carries out the corresponding function.

SET AUTOFLIP
Carries out the corresponding function.

RESET AUTOFLIP
Carries out the corresponding function.

6.7.6 Autopan

From the MAIN menu press the AUTOPAN key to enter the menu for carrying out the specific function.



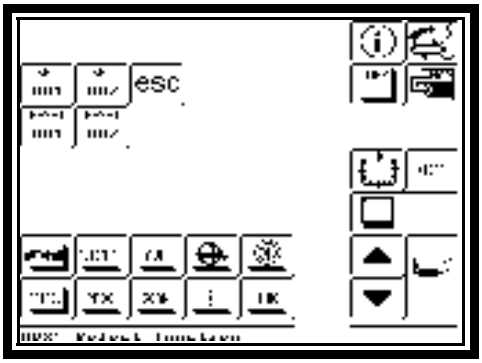
START AUTOPAN
Carries out the corresponding function.

STOP AUTOPAN
Stops the AUTOPAN function. Autopan stops when one of the two limit switches is reached.

The AUTOPAN function differs depending on the "AUTO PAN KEY" setting in the OSM.

6.7.7 Aux

From the MAIN menu press the AUX key to enter the menu for carrying out the specific function.

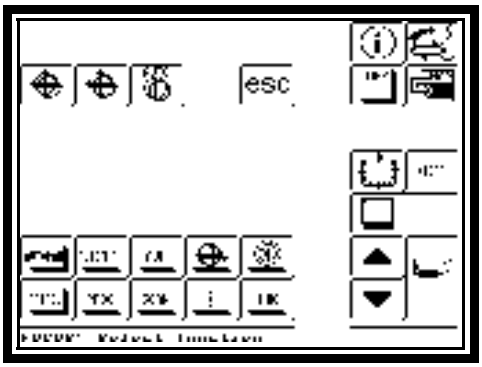


SET No. X
Activates relay No. X

RESET No.
Deactivates relay No. X

6.7.8 Focus

From the MAIN menu press the FOCUS key to enter the menu for carrying out the specific function.



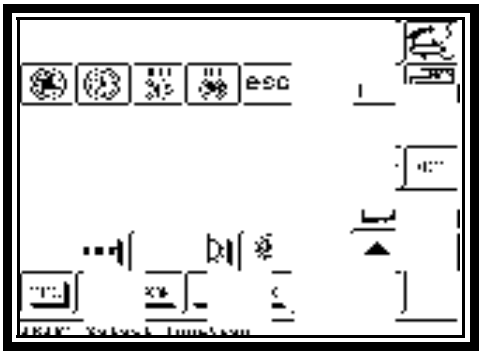
FOCUS FAR
Activates the FOCUS FAR function

FOCUS NEAR
Activates the FOCUS NEAR function

AUTOFOCUS
Activates the AUTOFOCUS function

6.7.9 Iris

From the MAIN menu press the IRIS key to enter the menu for carrying out the specific function.



IRIS OPEN
Activates the IRIS OPEN function

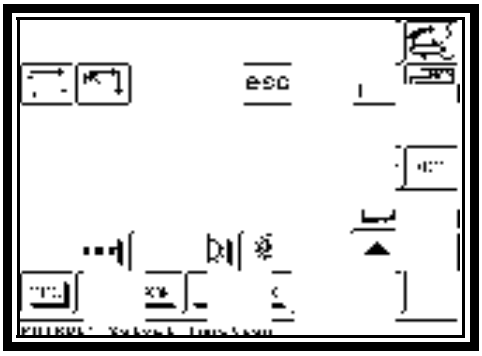
IRIS CLOSE
Activates the IRIS CLOSE function

SET AUTOIRIS
Activates the AUTOIRIS function

RESET AUTOIRIS
Deactivates the AUTOIRIS function

6.7.10 Patrol (Panasonic WV-CS600)

From the MAIN menu press the PATROL key to enter the menu for carrying out the movement controls.



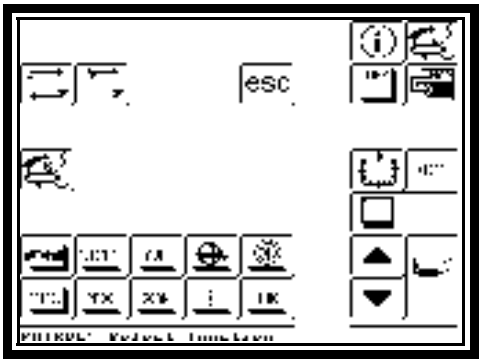
START PATROL
Used to carry out the PATROL sequence.

STOP PATROL
Used to stop the function in progress.

If this function is activated it can only be stopped by using the STOP PATROL keys. If the joystick operates the dome the active PATROL will proceed.

6.7.11 Patrol (Panasonic WV-CS850)

From the MAIN menu press the PATROL key to enter the menu for carrying out the movement controls.



START PATROL
Used to carry out the PATROL sequence.

STOP PATROL
Used to stop the function in progress .

SET PATROL
Used to set up the sequence to be carried out by PATROL

If this function is activated it can only be stopped by using the STOP PATROL keys. If the joystick operates the dome the active PATROL will proceed.

6.7.12 Preset, Scan and Home

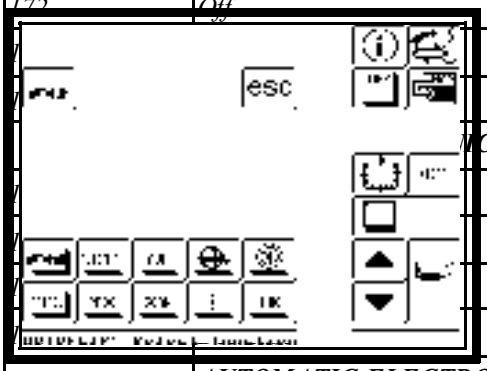
The PRESET, SCAN and HOME functions are as described in the general explanation with the following limitations specific to the dome (*see § 4.4.7.1 - Preset, pag.47 e see § 4.4.8 - SCAN MENU, pag.49*).

Type	*Minimum position*	*Maximum position*	*Notes*
PRESET	*1*	*63*	
SCAN	*1*	*63*	
HOME			*Recalls a specified position, the setting for which was made using the dome OSM.* *See the specific manual for the dome.*

6.7.13 Special codes

Go to the special code insertion screen (*see § 6.1.5 - Organising the configuration menus , pag.98*).
Some parameters can be configured by inserting a special code.

Number	*Function*
AUTOPAN	
71	*Auto mode: off*
72	*Auto mode: seq on*
73	*Auto mode: sort on*
67	*Increase AUTOPAN speed (*)*
68	*Decrease AUTOPAN speed (*)*
69	*Consider the current position as the first limit switch*
70	*Consider the current position as the second limit switch*
74	*Reverse AUTOPAN direction (*)*
76	*Configure AUTOPAN in endless mode (*)*
77	*Configure AUTOPAN in endless off mode (*)*
1009	*AUTOPAN limits on*
1010	*AUTOPAN limits off*
(*) Configuration is enabled the next time AUTOPAN is restarted	
MISC.	
	SHUTTER
171	*On*
172	*Off*
	IC SENSITIVITY
	AUTOMATIC ELECTRONIC SENSITIVITY
181	*On*
182	*Off*
183	*Increase*
184	*Decrease*
LENSES	
	SUPER-D



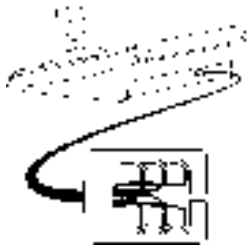
84	*On*
85	*Off*
	AUTOFOCUS
175	*On*
	Off
	LINE LOCK SYNC
	Increase
186	*Decrease*
	ALC On
1002	*AWC On*
1003	*ATW On*
	ON SCREEN INFORMATION
	nal to zoom factor: enabled
	nal to zoom factor: disabled
	East/West
188	*Cleaning On*
	Cleaning Off
1004	*Motion detect On*
	Motion detect Off
1006	*Privacy zone On*
	Privacy zone Off
1011	*Refresh*
9998	*Reset*
9999	*Complete Reset*

6.8 PELCO Dome

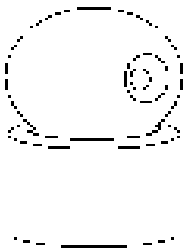
6.8.1 Materials and reference documents

Spectra II 3.31 Dome
Pelco Protocol Manual, "D" Protocol, March 2, 1999

6.8.2 Connecting the dome hardware



White	**RS485A**	Rx+
Yellow	**RS485B**	Rx-



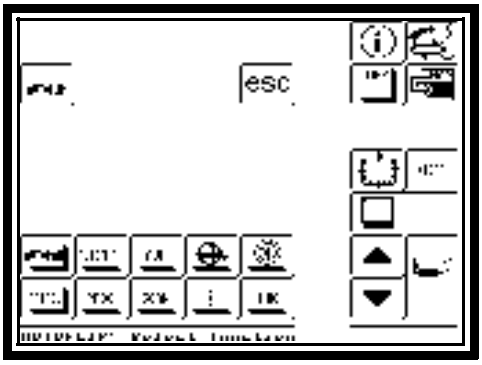
IMPORTANT NOTE
The dome should be configured to use the "D" Type Protocol.

6.8.3 Configuration

The parameters can be configured by inserting a special code (see the corresponding section).
For all dome configuration operations SETUP TELEMETRY must be enabled.
Connect the dome directly to the keyboard and a monitor to the dome video output following the general procedure (*see § 6.18 - Procedure for setting a dome/receiver in operation, pag.191*).

6.8.4 Autoflip

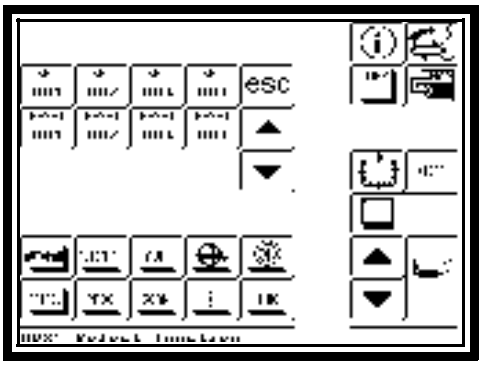
From the MAIN menu press the AUTOFLIP key to enter the menu for carrying out the specific function.



START AUTOFLIP
Carries out the corresponding function.

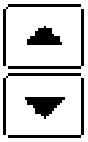
6.8.5 Aux

From the MAIN menu press the AUX key to enter the menu for carrying out the specific function.



SET No. X
Activates relay No. X

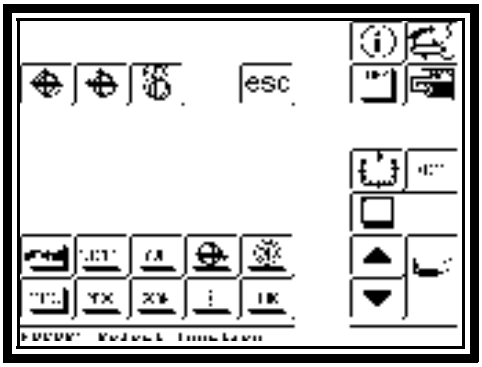
RESET No.
Deactivates relay No. X



UP/DOWN ARROWS
To show the other relays.

6.8.6 Focus

From the MAIN menu press the FOCUS key to enter the menu for carrying out the specific function.



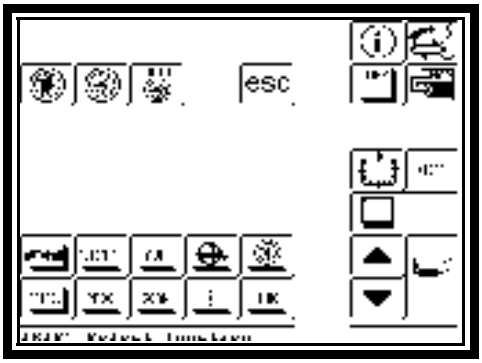
FOCUS FAR
Activates the FOCUS FAR function

FOCUS NEAR
Activates the FOCUS NEAR function

AUTOFOCUS
Activates the AUTOFOCUS function

6.8.7 Iris

From the MAIN menu press the IRIS key to enter the menu for carrying out the specific function.



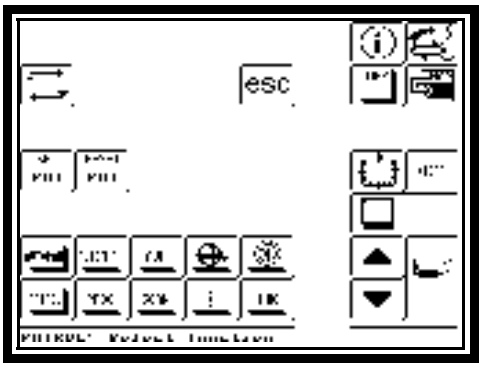
IRIS OPEN
Activates the IRIS OPEN function

IRIS CLOSE
Activates the IRIS CLOSE function

AUTOIRIS
Activates the AUTOIRIS function

6.8.8 Patrol (Pattern)

From the MAIN menu press the PATROL key to enter the menu for carrying out the movement controls.



START PATTERN
Used to carry out the corresponding Pattern.

SET PATTERN
Used to enable Pattern setup.

STOP PATTERN
Used to end Pattern setup.

6.8.9 Preset, Scan and Home

The PRESET, SCAN and HOME functions are as described in the general explanation with the following limitations specific to the dome (*see § 4.4.7.1 - Preset, pag.47 e see § 4.4.8 - SCAN MENU, pag.49*).

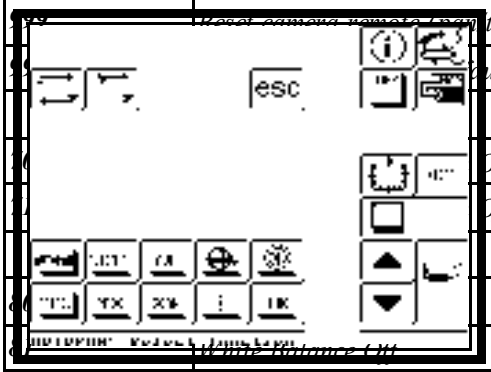
Type	*Minimum position*	*Maximum position*	*Notes*
PRESET	*1*	*32*	
SCAN	*1*	*32*	
HOME			*Carries out the SCAN command to position 1.*

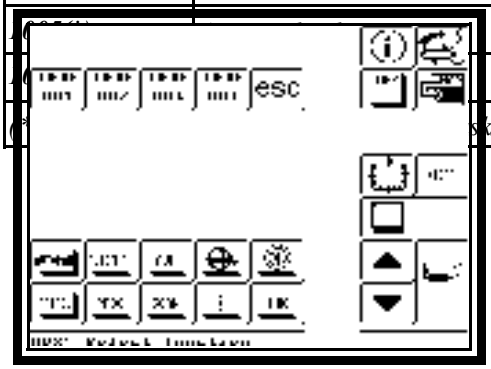
6.8.10 Special codes

Go to the special code insertion screen (*see § 6.1.5 - Organising the ...nus , pag.98*).
Some parameters can be configured by inserting a special code.

Number	***Function***
0	*Position of PAN 0.*
SPEED CURVES	
11	*First speed curve*
12	*Second speed curve*
13	*Third speed curve*
14	*Fourth speed curve(default)*
ZONE	
20	*Start the SCAN of the zone.*
21	*End the SCAN of the zone.*
10X	*Set the start of the zone, with X from 1 to 8.*
20X	*Set the end of the zone, with X from 1 to 8.*
LENSES	
40	*AUTOFOCUS On.*
41	*AUTOFOCUS Off.*
42	*Automatic AUTOFOCUS on.*
AUTOIRIS	
50	*AUTOIRIS On.*
51	*AUTOIRIS Off.*
52	*Automatic AUTOIRIS On.*
ON SCREEN INFORMATION	

5	*AGC On .*
61	*AGC Off .*
MCH ent	*AGC automatic.*
S	
	Alarm recognition (X from 1 to 8).
MISC	
99	*Clean screen.*
	Reset camera (pan/tilt).
	Default values).
	On.
	Off.
	White balance Off
	Enable "device phase delay mode".
	Configure zoom speed, with X from 0 to 3.
	Configure focus speed, with X from 0 to 3.
	Shutter speed.
1001(*)	*Line lock level.*
1002(*)	*White balance R-B adjust.*
1003(*)	*White balance M-G adjust.*
1004(*)	*Gain.*
	ks for the insertion of a value between 0 and 40000.



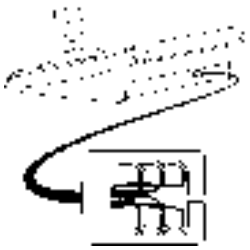


6.9 SAMSUNG Dome

6.9.1 Materials and reference documents

Samsung SCC-64-1P - SCC643P Dome
Samsung Protocol

6.9.2 Connecting the dome hardware

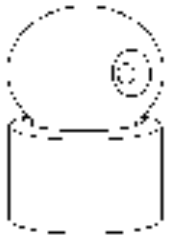


SCC64-1P

White	**RS485A**	Txd+
Yellow	**RS485B**	Txd-

SCC643

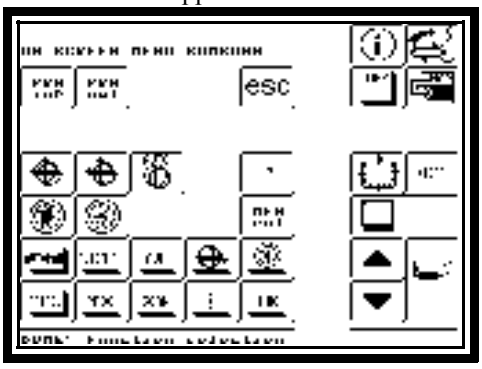
White	**RS485A**	Rxd+
Yellow	**RS485B**	Rxd-



For the SCC643 Dome configure FULL DUPLEX mode. If required by the system it is possible to configure HALF DUPLEX mode: in this case the connection is identical to that of the SCC64-1P Dome, on poles Txd+ and Txd-.

6.9.3 Configuration

The dome is mostly configured by On Screen Menu.
For all dome configuration operations SETUP TELEMETRY must be enabled.
Connect the dome directly to the keyboard and a monitor to the dome video output following the general procedure (*see § 6.18 - Procedure for setting a dome/receiver in operation, pag.191*).
Go to the dome OSM configuration screen.
The screen that appears allows access to dome OSM configuration.



ENTER PROGRAMMING
Used to enter the dome OSM .

EXIT PROGRAMMING
Used to exit the dome OSM .

FOCUS / IRIS
Used to perform the corresponding functions during the PRESET positions phase.

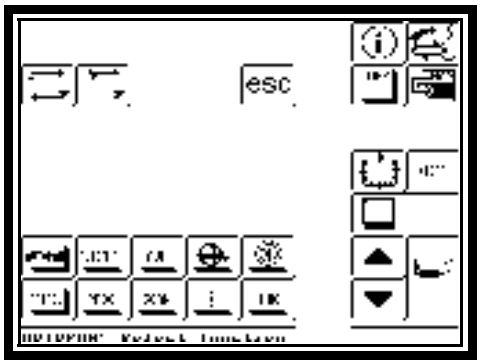
KEY 5
To be used as indicated in the dome manual.

MENU ENTER
Used to enter the submenus and confirm data changes.

	To increase/decrease the values within the menu use the joystick.

6.9.4 Autopan

From the MAIN menu press the AUTOPAN key to enter the menu for carrying out the specific function.



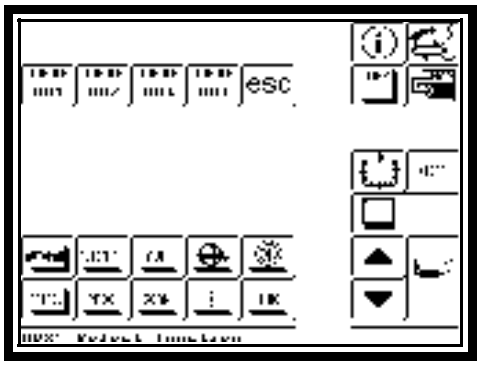
START AUTOPAN
Carries out the corresponding function.

STOP AUTOPAN
Stops the AUTOPAN function.

	Autopan stops when it reaches one of the two limit switches. *If the joystick is operated the dome will carry out the movement in progress until one of the two limit switches is reached.*

6.9.5 Aux

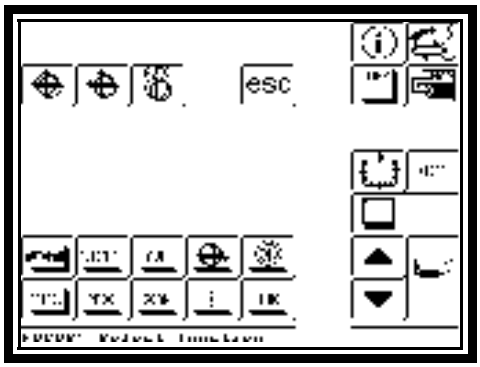
From the MAIN menu press the AUX key to enter the menu for carrying out the specific function.



TOGGLE No. X
Activates relay No. X

6.9.6 Focus

From the MAIN menu press the FOCUS key to enter the menu for carrying out the specific function.



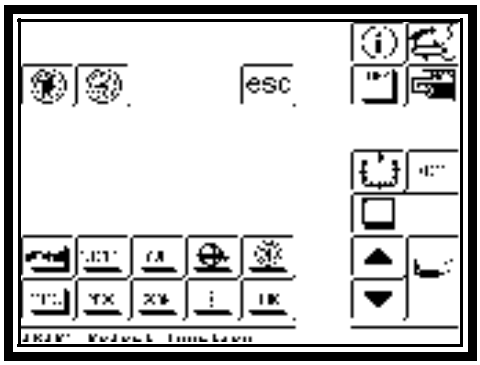
FOCUS FAR
Activates the FOCUS FAR function

FOCUS NEAR
Activates the FOCUS NEAR function

AUTOFOCUS
Activates the AUTOFOCUS function

6.9.7 Iris

From the MAIN menu press the IRIS key to enter the menu for carrying out the specific function.

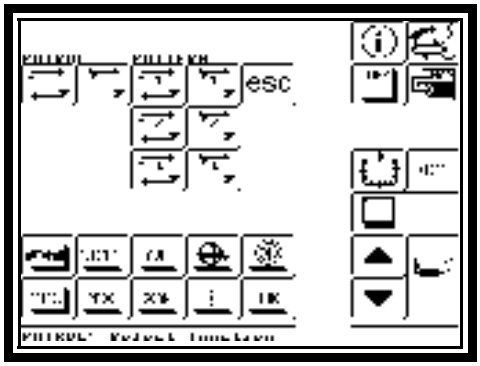


IRIS OPEN
Activates the IRIS OPEN function

IRIS CLOSE
Activates the IRIS CLOSE function

6.9.8 Patrol (PATTERN)

From the MAIN menu press the PATROL key to enter the menu for carrying out the movement controls.



START PATTERN 1…3
Used to perform the corresponding Pattern

STOP PATTERN
Used to stop the corresponding Pattern.

START PATROL
Used to carry out Patrol.

STOP PATROL
Used to stop Patrol.

	The function stops when the position of the movement in progress is reached (also in the case of joystick operation).

6.9.9 Preset, Scan and Home

	Important note! *The 'Scan' and 'Patrol' instructions given in the dome manual do not correspond to the generally accepted usage in this manual: for practical purposes the functions take the 'standard' meanings and not those suggested by the dome manual:* ◆ *'preset' means to store the current position* ◆ *'scan' means the pan & tilt movement towards a previously stored position; in the dome manual this function is called 'preset'* ◆ *'patrol' means a series of 'scans', where the previously stored positions are shown one after the other in sequence; in the dome manual this function is called 'scan'.*

The PRESET, SCAN and HOME functions are as described in the general explanation with the following limitations specific to the dome (*see § 4.4.7.1 - Preset, pag.47 e see § 4.4.8 - SCAN MENU, pag.49*).

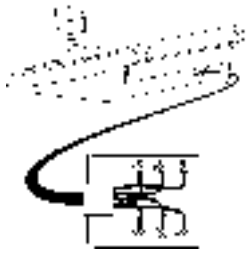
Type	*Minimum position*	*Maximum position*	*Notes*
PRESET	*1*	*127*	*Can only be stored via the dome OSM (for SCC64-1P)*
SCAN	*1*	*127*	
HOME			*Execution of SCAN control to position 1.*

6.10 SANYO Dome

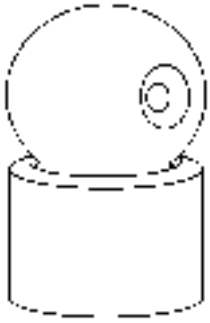
6.10.1 Materials and reference documents

VCC9400P – VCC9300P Dome
Security Serial Protocol (SSP), ver1.14, 2003.08.19
High Speed Security Serial Protocol (SSP), ver1.00, 2003.11.07

6.10.2 Connecting the dome hardware

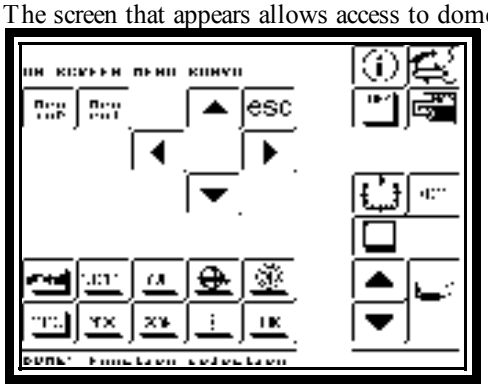


White	**RS485A**	A+
Yellow	**RS485B**	B-



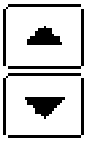
6.10.3 Configuration

The dome is mostly configured by On Screen Menu.
Some parameters can be configured by inserting a special code.
For all dome configuration operations SETUP TELEMETRY must be enabled.
Connect the dome directly to the keyboard and a monitor to the dome video output following the general procedure (*see § 6.18 - Procedure for setting a dome/receiver in operation, pag.191*).
Go to the dome OSM configuration screen.
The screen that appears allows access to dome OSM configuration.

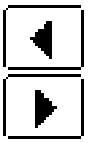


ENTER PROGRAMMING
Used to enter the dome OSM menu.

CONFIRM "ENTER"
Used to enter the submenu and confirm data changes.



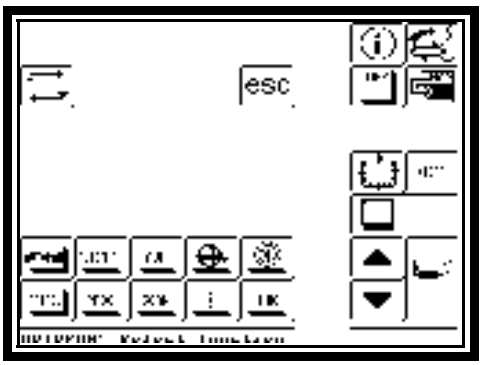
UP/DOWN ARROWS
To shift within the dome menus.



LEFT/RIGHT ARROWS
To change the value indicated by the cursor.

6.10.4 Autopan

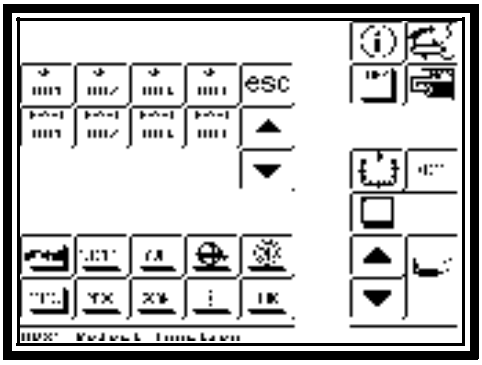
From the MAIN menu press the AUTOPAN key to enter the menu for carrying out the specific function.



START AUTOPAN
Carries out the corresponding function.

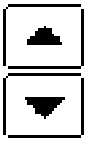
6.10.5 Aux

From the MAIN menu press the AUX key to enter the menu for carrying out the specific function.

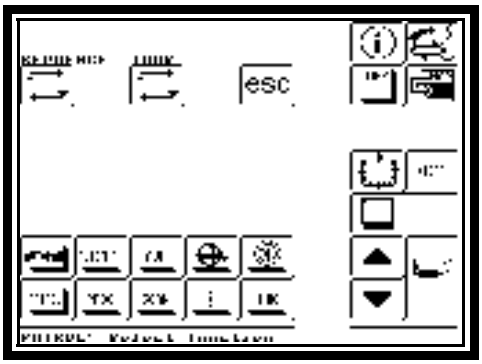


SET No. X
Activates relay No. X

RESET No.
Deactivates relay No. X

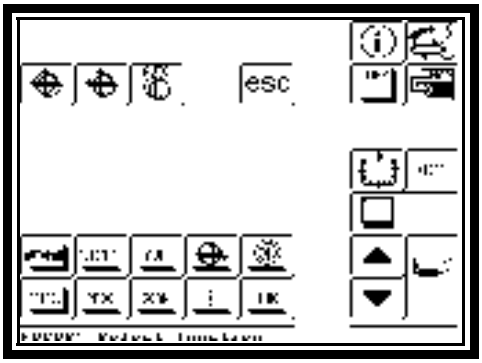


UP/DOWN ARROWS
To show the other relays.


esc

6.10.6 Focus

From the MAIN menu press the FOCUS key to enter the menu for carrying out the specific function.



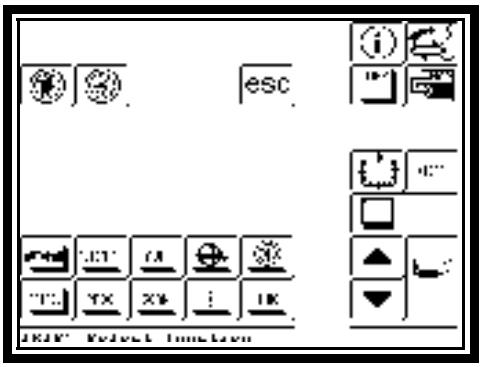
FOCUS FAR
Activates the FOCUS FAR function

FOCUS NEAR
Activates the FOCUS NEAR function

AUTOFOCUS TOGGLE
Activates/deactivates the AUTOFOCUS function

6.10.7 Iris

From the MAIN menu press the IRIS key to enter the menu for carrying out the specific function.



IRIS OPEN
Activates the IRIS OPEN function

IRIS CLOSE
Activates the IRIS CLOSE function

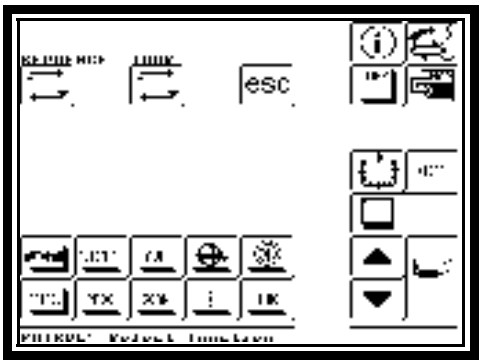
6.10.8 Preset, Scan and Home

The PRESET, SCAN and HOME functions are as described in the general explanation with the following limitations specific to the dome (*see § 4.4.7.1 - Preset, pag.47 e see § 4.4.8 - SCAN MENU, pag.49*).

Type	*Minimum position*	*Maximum position*	*Notes*
PRESET	*1*	*64*	
SCAN	*1*	*64*	
HOME			*Execution of SCAN control to position 1.*

6.10.9 Patrol

From the MAIN menu press the PATROL key to enter the menu for carrying out the movement controls.



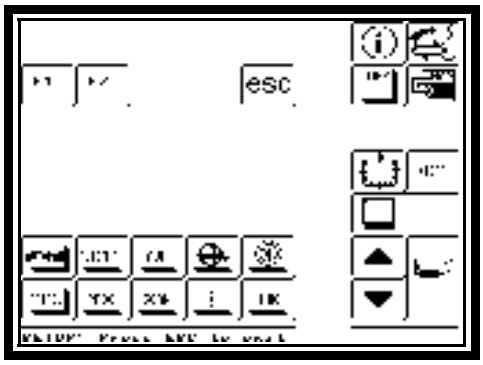
START SEQUENCE
Used to carry out the corresponding sequences.

START TOUR
Used to carry out the "TOUR" function.

	Refer to the dome manual.

6.10.10 Function keys

From the MAIN menu press the FUNCTION KEYS key to enter the menu for carrying out the specific controls.



F1
Associated function: "line lock incr".

F2
Associated function: "line lock decr".

Refer to the dome manual.

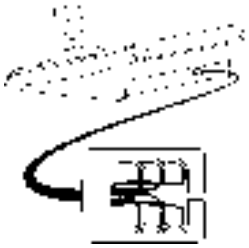
6.10.11 Special codes

Go to the special code insertion screen (*see § 6.1.5 - Organising the configuration menus , pag.98*).
Some parameters can be configured by inserting a special code.

Number	***Function***
10	*Zoom preset*
20	*Iris center*
30	*Els on / off*
31	*Blc on / off*
40	*Awc set*
41	*Awc reset*

6.11 SANTEC Dome

6.11.1 Connecting the dome hardware

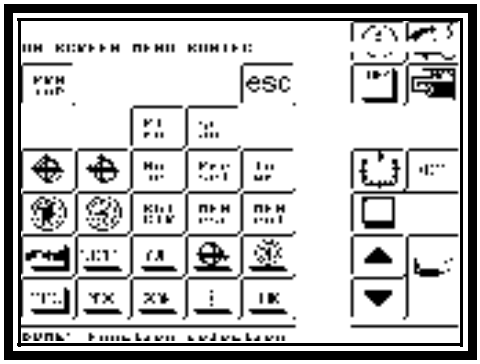


White	**RS485A**	TX+
Yellow	**RS485B**	TX-

	IMPORTANT NOTE *Configure inside the dome the Fastrax II Protocol.*

6.11.2 Configuration

The dome is mostly configured by On Screen Menu.
For all dome configuration operations SETUP TELEMETRY must be enabled.
Connect the dome directly to the keyboard and a monitor to the dome video output following the general procedure (*see § 6.18 - Procedure for setting a dome/receiver in operation, pag.191*).
Go to the dome OSM configuration screen.
The screen that appears allows access to dome OSM configuration.

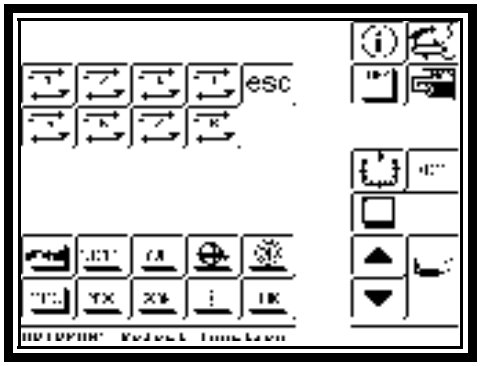


ENTER PROGRAMMING
Used to enter the dome OSD

The remaining keys have the same functions as those of the original keyboard. The reader should refer to the specific manual for the dome.

6.11.3 Autopan

From the MAIN menu press the AUTOPAN key to enter the menu for carrying out the specific function.

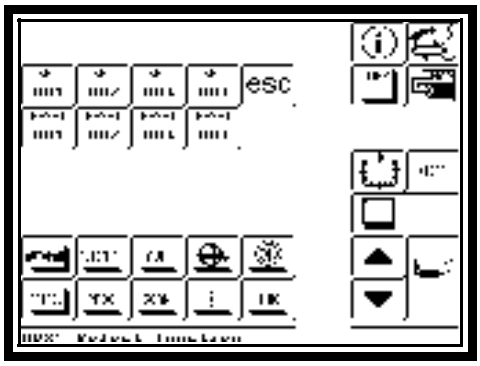


START AUTOPAN 1... 8
Carries out the corresponding function.

Important note: *'autopan' means the movement shown by the dome as 'auto scan'*
The only way to stop a movement in progress is to operate the joystick (Pan or Tilt movements).

6.11.4 Aux

From the MAIN menu press the AUX key to enter the menu for carrying out the specific function.

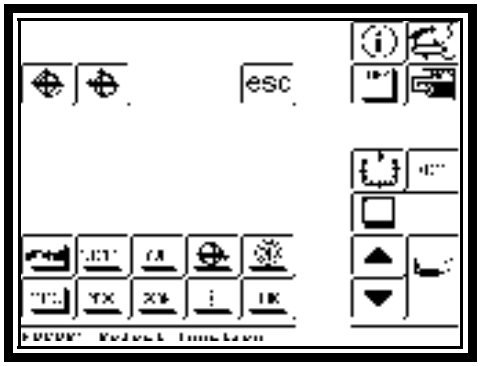


SET No. X
Activates relay No. X

RESET No.
Deactivates relay No. X

6.11.5 Focus

From the MAIN menu press the FOCUS key to enter the menu for carrying out the specific function.

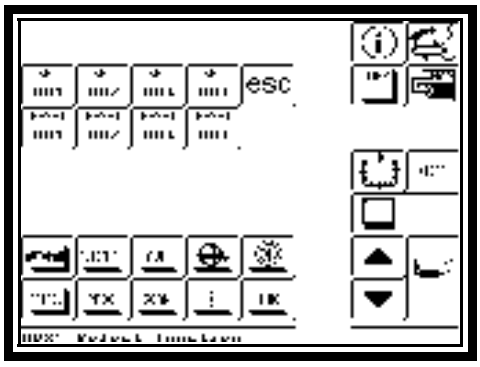


FOCUS FAR
Activates the FOCUS FAR function

FOCUS NEAR
Activates the FOCUS NEAR function

6.11.6 Iris

From the MAIN menu press the IRIS key to enter the menu for carrying out the specific function.



IRIS OPEN
Activates the IRIS OPEN function

IRIS CLOSE
Activates the IRIS CLOSE function

6.11.7 Preset, Scan and Home

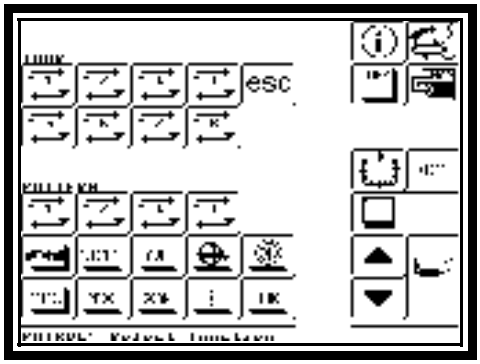
	Important note! *The 'Scan' instructions given in the dome manual do not correspond to the generally accepted usage in this manual: for practical purposes the functions take on the 'standard' meaning and not those suggested by the dome manual:* ◆ *'preset' means to store the current position* ◆ *'scan' means the pan & tilt movement to a previously stored position; in the dome manual this position is called 'preset'* ◆ *'autopan' means the dome movement described as 'auto scan'*

The PRESET, SCAN and HOME functions are as described in the general explanation with the following limitations specific to the dome (*see § 4.4.7.1 - Preset, pag.47 e see § 4.4.8 - SCAN MENU, pag.49*).

Type	*Minimum position*	*Maximum position*	*Notes*
PRESET	*1*	*240*	
SCAN	*1*	*240*	*In the event of joystick operation the dome carries out the movement in progress until it reaches the recalled preset position.*
HOME			*Carries out the function specified in OSD*

6.11.8 Patrol (Tour and Pattern)

From the MAIN menu press the PATROL key to enter the menu for carrying out the movement controls.



START TOUR/PATTERN
Used to carry out PATROL.

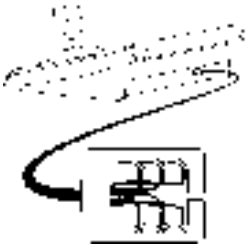
	The only way to stop the movement in progress is to operate the joystick (Pan or Tilt movements)

6.12 SENSORMATIC Dome

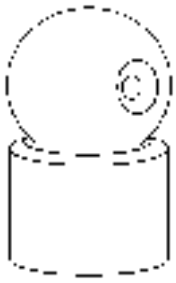
6.12.1 Materials and reference documents

Sensormatic DeltaDome II Dome
Rs-422/RS-485 Communication Protocols, 8000-2694-01, Rev.A

6.12.2 Connecting the dome hardware

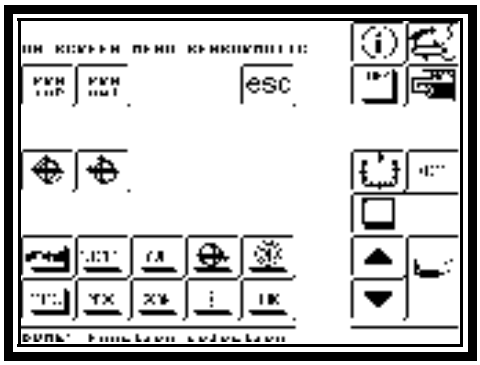


White	**RS485A**	Rx+
Yellow	**RS485B**	Rx-



6.12.3 Configuration

The dome is mostly configured by On Screen Menu.
Some parameters can be configured by inserting a special code.
For all dome configuration operations SETUP TELEMETRY must be enabled.
Connect the dome directly to the keyboard and a monitor to the dome video output following the general procedure (*see § 6.18 - Procedure for setting a dome/receiver in operation, pag.191*).
Go to the dome OSM configuration screen.
The screen that appears allows access to dome OSM configuration.



ENTER PROGRAMMING
Used to enter the dome OSM.

EXIT PROGRAMMING
Used to exit the dome OSM.

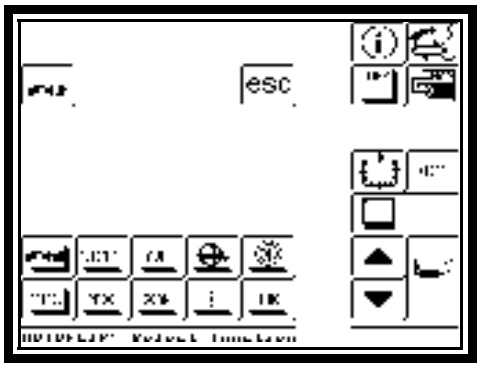
FOCUS NEAR
To be used as indicated in the dome manual (selecting the submenus).

FOCUS FAR
To be used as indicated in the dome manual (selecting the submenus).

To move within the menus use the joystick.
ZOOM is used to increase/decrease the field values and move the cursor to the left or right when defining the text.

6.12.4 Autoflip

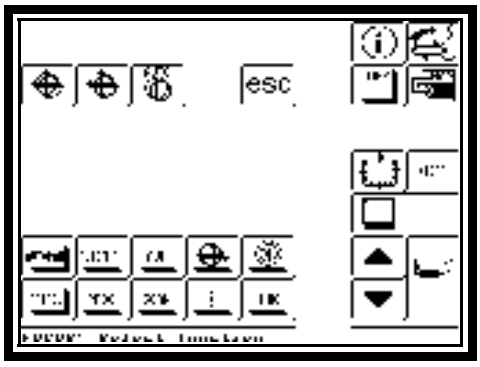
From the MAIN menu press the AUTOFLIP key to enter the menu for carrying out the specific function.



START AUTOFLIP
Carries out the corresponding function.

6.12.5 Focus

From the MAIN menu press the FOCUS key to enter the menu for carrying out the specific function.



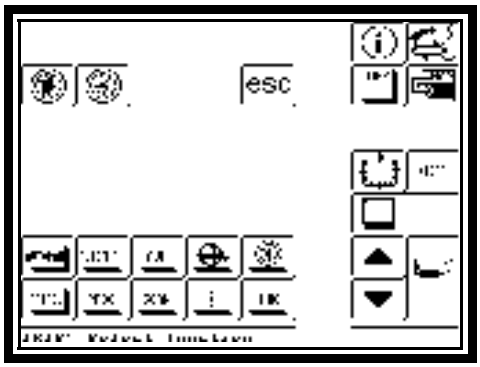
FOCUS FAR
Activates the FOCUS FAR function

FOCUS NEAR
Activates the FOCUS NEAR function

AUTOFOCUS
Activates the AUTOFOCUS function

6.12.6 Iris

From the MAIN menu press the IRIS key to enter the menu for carrying out the specific function.

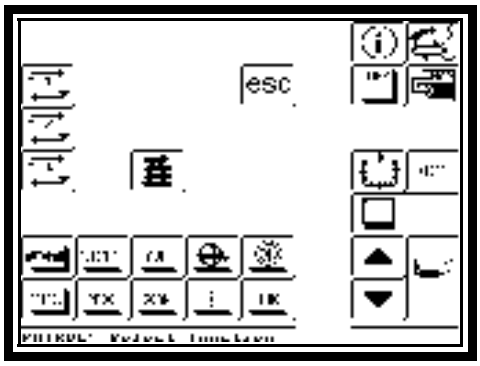


IRIS OPEN
Activates the IRIS OPEN function

IRIS CLOSE
Activates the IRIS CLOSE function

6.12.7 Patrol (Pattern and Apple Peel)

From the MAIN menu press the PATROL key to enter the menu for carrying out the movement controls.



START PATTERN 1…3
Used to carry out the corresponding PATTERN.

APPLE PEEL
Used to carry out the corresponding APPLE PEEL function.

Deleting a PATTERN means it takes on the APPLE PEEL function.

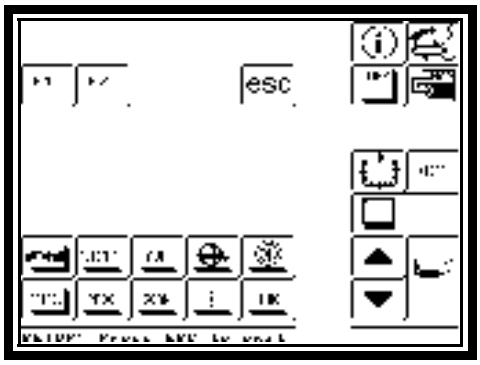
6.12.8 Preset, Scan and Home

The PRESET, SCAN and HOME functions are as described in the general explanation with the following limitations specific to the dome (*see § 4.4.7.1 - Preset, pag.47 e see § 4.4.8 - SCAN MENU, pag.49*).

Type	*Minimum position*	*Maximum position*	*Notes*
PRESET	*1*	*7*	
SCAN	*1*	*7*	
HOME			*Performs the SCAN command to position 1.*

6.12.9 Function keys

From the MAIN menu press the FUNCTION KEYS key to enter the menu for carrying out specific controls.



F1
Associated function: "V-PHASE +".

F2
Associated function: "V-PHASE -".

Refer to the dome manual.

6.12.10 Special codes

Go to the special code insertion screen (*see § 6.1.5 - Organising the configuration menus , pag.98*).
Some parameters can be configured by inserting a special code.

Number	***Function***
RELAYS	
0	*All relays off*
1	*Relay 1 on*
2	*Relay 2 on*
3	*Relay 3 on*
4	*Relay 4 on*
12	*Relays 12 on*

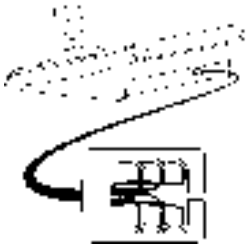
13	*Relays 13 on*
14	*Relays 14 on*
23	*Relays 23 on*

6.13 STAR Dome

6.13.1 Materials and reference documents

Star SMD Dome
MD200 Series Control Command Reference, rev.2.02, September 1, 1999

6.13.2 Connecting the dome hardware



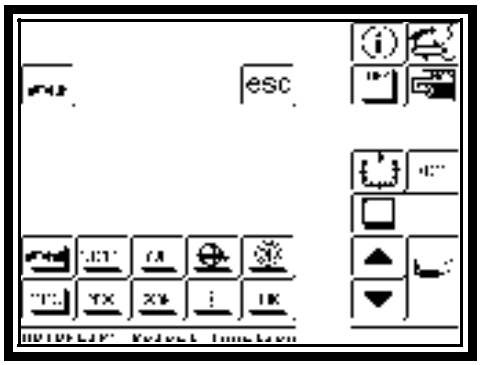
White	**RS485A**	Data+
Yellow	**RS485B**	Data-

6.13.3 Configuration

The parameters can be configured by inserting a special code (see the corresponding section).
For all dome configuration operations SETUP TELEMETRY must be enabled.
Connect the dome directly to the keyboard and a monitor to the dome video output following the general procedure (*see § 6.18 - Procedure for setting a dome/receiver in operation, pag.191*).

6.13.4 Autoflip

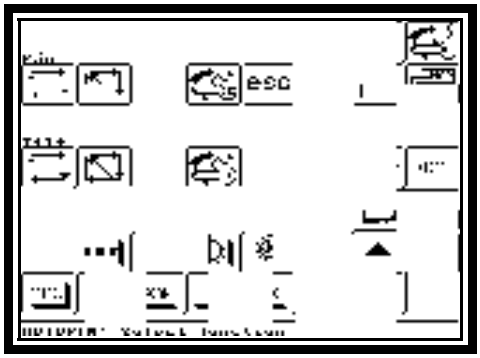
From the MAIN menu press the AUTOFLIP key to enter the menu for carrying out the specific function.



START AUTOFLIP
Carries out the corresponding function.

6.13.5 Autopan

From the MAIN menu press the AUTOPAN key to enter the menu for carrying out the specific function.

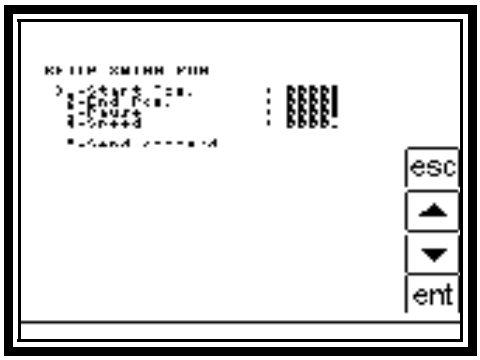


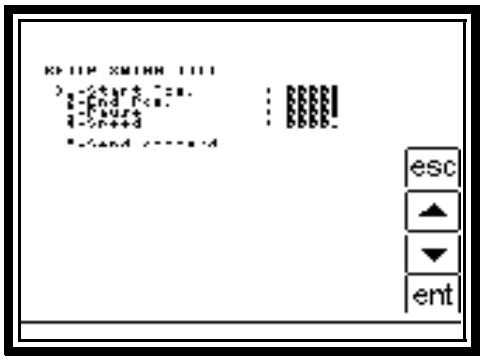
START AUTOPAN/AUTOTILT
Carries out the corresponding function.

STOP AUTOPAN/AUTOTILT
Stops the corresponding function.

SETUP AUTOPAN/AUTOTILT
Recalls the AUTOPAN/AUTOTILT setup submenus.

6.13.5.1 Setup Autopan/Autotilt(SWING)





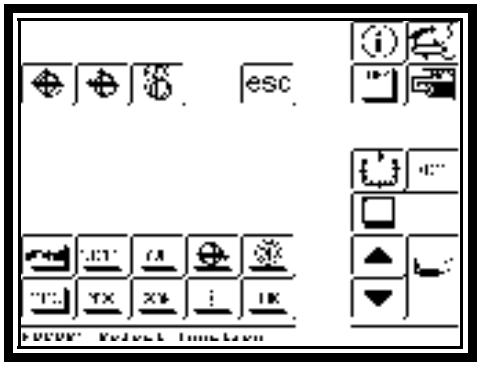
The following common procedure for each setup describes how to set up the two movements, PAN and TILT:

- Select the first line and press ENTER, insert the PRESET position number that is to be the starting position for the function.
- Select the second line and press ENTER. Insert the PRESET position number that is to be the final position for the function.
- Select the third line and press ENTER. Insert the duration of the pause when one of the two positions is reached.
- Select the fourth line and press ENTER. Insert the dome movement speed (1-slow, 64-fast).
- Select the item "Send command" to transmit the completed settings to the dome.
- Press the ESC key to return to the AUTOPAN screen.

	The movement starts from the first position and moves either in PAN only or in TILT only to reach the second position.

6.13.6 Focus

From the MAIN menu press the FOCUS key to enter the menu for carrying out the specific function.



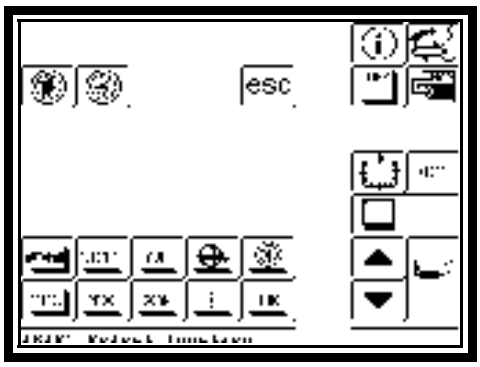
FOCUS FAR
Activates the FOCUS FAR function

FOCUS NEAR
Activates the FOCUS NEAR function

AUTOFOCUS
Activates the AUTOFOCUS function

6.13.7 Iris

From the MAIN menu press the IRIS key to enter the menu for carrying out the specific function.

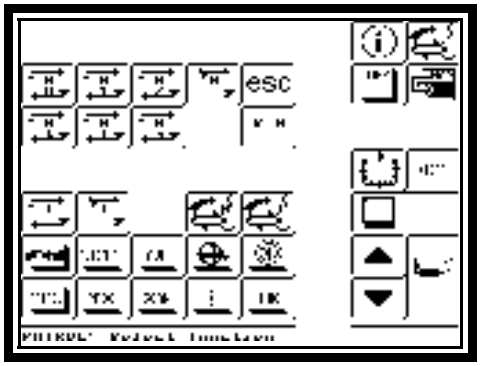


IRIS OPEN
Activates the IRIS OPEN function

IRIS CLOSE
Activates the IRIS CLOSE function

6.13.8 Patrol (Group – Tour)

From the MAIN menu press the PATROL key to enter the menu for carrying out the movement controls.



START GROUP 0..5
Used to perform the recalled GROUP.

STOP ACTIVE GROUP
Used to stop performance of the current GROUP.

START GROUP RANDOM MENU
Used to enter the menu for performing the GROUPS "randomly".

START TOUR
Used to start the TOUR.

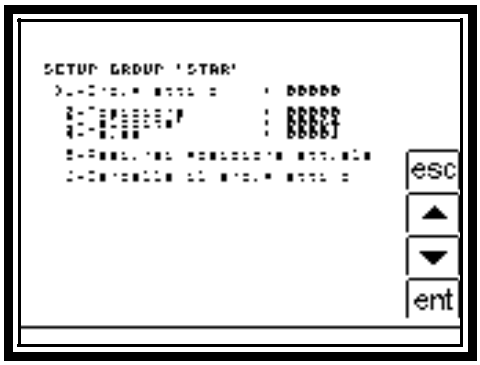
STOP TOUR
Used to stop the TOUR.

SETUP TOUR
Used to enter the setup menu for the specific TOUR.

SETUP GROUP
Used to enter the setup menu for the GROUP.

If this function is activated it can only be stopped by using the STOP keys.
If the joystick operates the dome the active function proceeds.

6.13.8.1 Setup Group



The following procedure is valid for all 6 TOURs.

Procedure for adding a position to the selected TOUR :

- Select the first parameter, press the ENTER key and when the numeric keypad appears set the PRESET number to reach the dome.
- Select the second parameter, press the ENTER key and use the keypad to set the speed used to reach the position.
- Select the third parameter, press the ENTER key and use the keypad to set the duration of the pause when the position is reached
- Select "Send position" and press the ENTER key to send information to the dome.
- To add other positions repeat from the beginning.

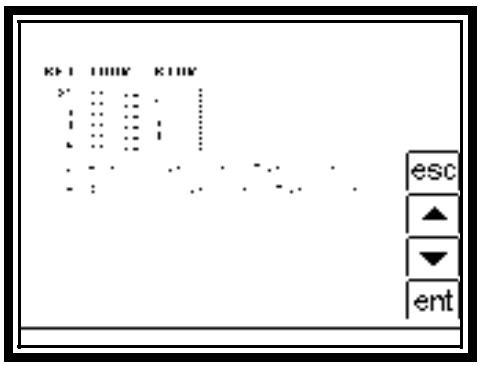
Finally press the ESC key to return to the TOUR performance screen.

Procedure for deleting the GROUP.

- Select the delete TOUR command line and confirm by pressing the ENTER key

Press the ESC key to exit the menu

6.13.8.2 Setup Tour



Procedure for setting up the TOUR function:

- Position the cursor next to the GROUP that is to be enabled in the TOUR function and press the ENTER key. Enabled status is shown as a filled dot.
- Send the Configuration to the dome by positioning the cursor on the send command line and press the ENTER key.

Press the ESC key to exit the menu.

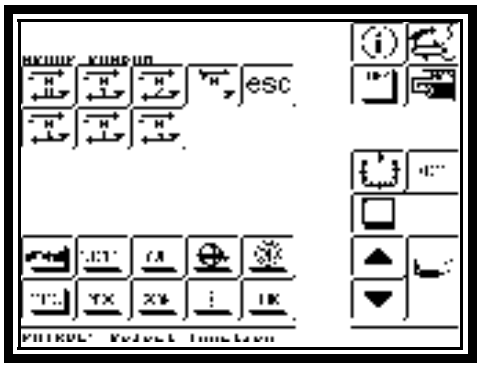
Procedure for deleting the TOUR.

- Select the delete TOUR command line and confirm by pressing the ENTER key.

Press the ESC key to exit the menu.

6.13.9 Random Group

This function will cause all the positions stored in the corresponding GROUP to be reached at random. The order of insertion during the setup phase will not be respected.



Preset, Scan and Home
The PRESET, SCAN and HOME functions are as described in the general explanation with the following limitations specific to the dome (*see § 4.4.7.1 - Preset, pag.47 e see § 4.4.8 - SCAN MENU, pag.49*).

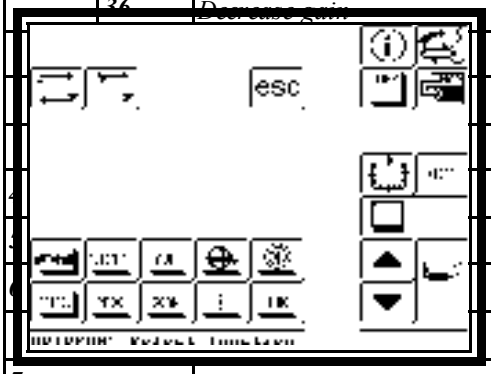
Type	*Minimum position*	*Maximum position*	*Notes*
PRESET	*1*	*63*	
SCAN	*1*	*63*	
HOME			*Perform the SCAN command to position 1.*

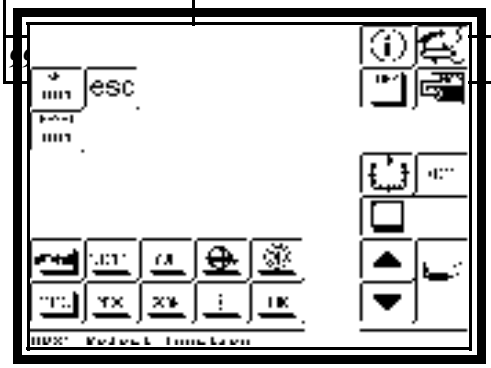
6.13.10 Special codes

Go to the special code insertion screen (*see § 6.1.5 - Organising the configuration menus , pag.98*).
Some parameters can be configured by inserting a special code.

Number		***Function***		
RELAYS				
1		*AE Mode*		
2		*Priority*		
	21	*Flickerless shutter*		
	22	*Increase shutter*		
	23	*Decrease shutter*	***124***	*Iris open*
	24	*Increase iris open*	***125***	*Iris close*
	25	*Increase iris close*		
3		*Manual*		
	31	*Increase shutter*		
	32	*Decrease shutter*		
	33	*Increase iris open*	***133***	*Iris open*
	34	*Increase iris open*	***134***	*Iris close*

Number	Function
35	*Increase gain*
36	*Decrease gain*
7	*Autopower mode: enable*
	Autopower mode: disable
10	*White Balance: auto*
	White Balance: one shot
	Exposure: lighter
	Exposure: darker
42	*Exposure: default*
	Digital zoom: On
	Digital zoom: Off
1999	*Internal video synchronism*
1XXX	*External video synchronism (x from 0 to 359, phase in degrees) e.g. 1215 = 215°*



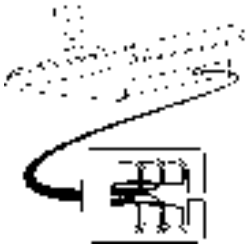


6.14 VCL Dome

6.14.1 Materials and reference documents

VCL 8" Internal Orbiter Dome
Details of VCLTP Protocol, file ref. CIMICRO8 26.05.99

6.14.2 Connecting the dome hardware



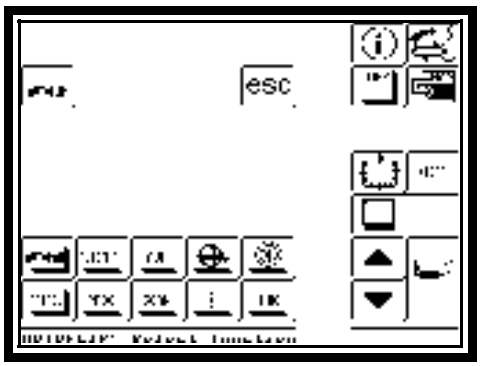
White	**RS485A**	Data+
Yellow	**RS485B**	Data-

6.14.3 Configuration

The dome is configured by On Screen Menu in those models that allow it.
For all dome configuration operations SETUP TELEMETRY must be enabled.
Connect the dome directly to the keyboard and a monitor to the dome video output following the general procedure (*see § 6.18 - Procedure for setting a dome/receiver in operation, pag.191*).
Go to the dome OSM configuration screen. When the configuration key is pressed the "Camera setup" command will be sent to the dome (only for those domes that allow it).

6.14.4 Autoflip

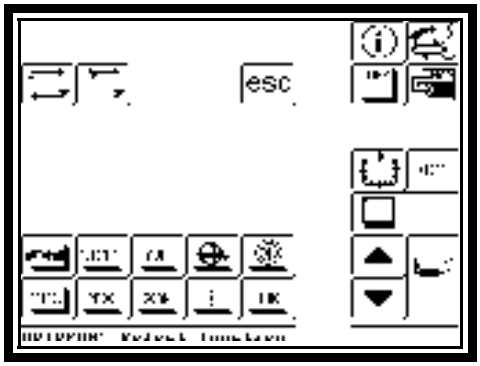
From the MAIN menu press the AUTOFLIP key to enter the menu for carrying out the specific function.



START AUTOFLIP
Carries out the corresponding function.

6.14.5 Autopan

From the MAIN menu press the AUTOPAN key to enter the menu for carrying out the specific function.



START AUTOPAN
Carries out the corresponding function.

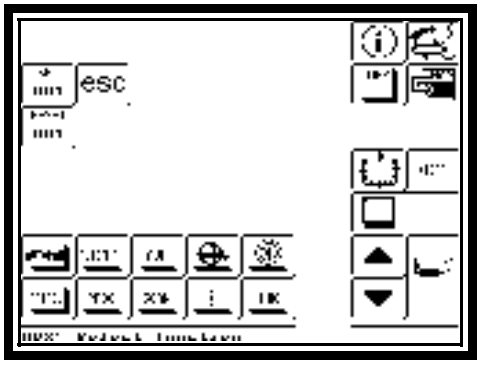
STOP AUTOPAN
Stops the AUTOPAN function. Autopan stops when one of the two limit switches is reached.

	The path to be followed is set up using the dome OSM. *If this function is activated it can only be stopped by the STOP AUTOPAN key. If the joystick is operated, the dome will continue to move, ignoring the controls until one of the two AUTOPAN positions is reached.*

	The setting for the path to be performed with the AUTOPAN function overwrites TOUR 4, forcing movement to the two positions, preset 1 and 2. Therefore the first time the START AUTOPAN key is pressed, any configuration of TOUR 4 will be lost.

6.14.6 Aux

From the MAIN menu press the AUX key to enter the menu for carrying out the specific function.

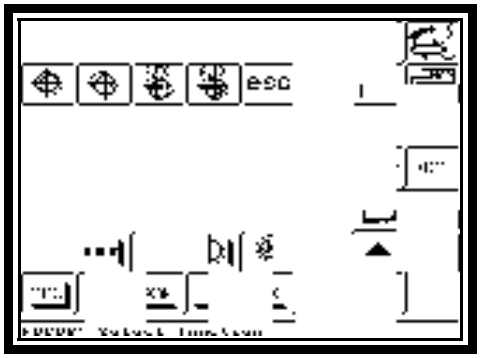


SET No. X
Activates relay No. X

RESET No.
Deactivates relay No. X

6.14.7 Focus

From the MAIN menu press the FOCUS key to enter the menu for carrying out the specific function.



FOCUS FAR
Activates the FOCUS FAR function

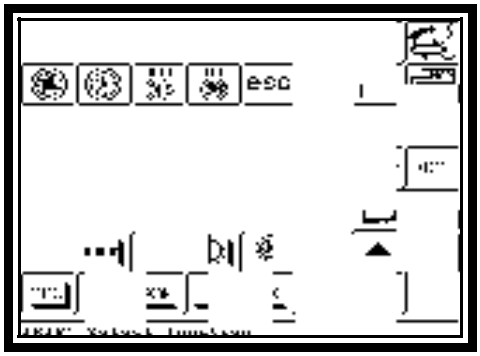
FOCUS NEAR
Activates the FOCUS NEAR function

AUTOFOCUS ON
Activates the AUTOFOCUS function

AUTOFOCUS OFF
Deactivates the AUTOFOCUS function

6.14.8 Iris

From the MAIN menu press the IRIS key to enter the menu for carrying out the specific function.



IRIS OPEN
Activates the IRIS OPEN function

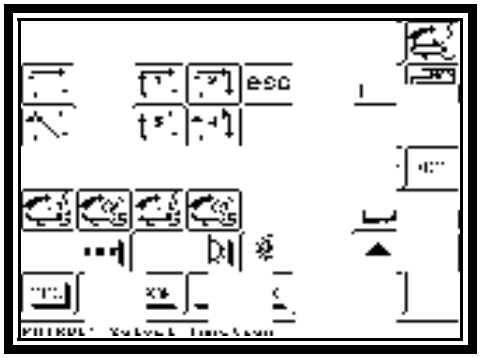
IRIS CLOSE
Activates the IRIS CLOSE function

SET AUTOIRIS
Activates the AUTOIRIS function

RESET AUTOIRIS
Deactivates the AUTOIRIS function

6.14.9 Patrol

From the MAIN menu press the AUTOPAN key to enter the menu for carrying out the specific function.



START LAST TOUR
Used to carry out the last "PATROL".

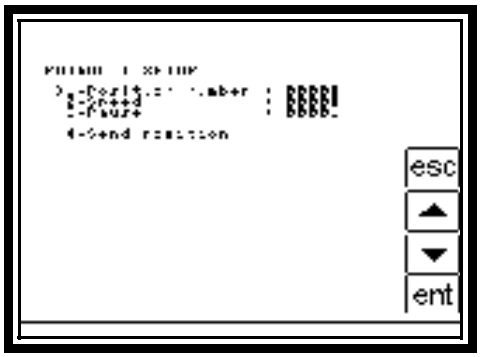
STOP LAST TOUR
Used to stop the "PATROL" in progress.

START TOUR1..4
Used to carry out the corresponding associated "PATTERN". The sequence of positions to be carried out is set up using the OSD menu.

SETUP TOUR 1..4
Used to enter the setup menu for the specific TOUR.

TOUR4 is used in common with the AUTOPAN function. The first time the START AUTOPAN key is pressed, any configuration of TOUR4 will be lost and forced to reach the two positions, PRESET 1 and 2.

6.14.9.1 Setup TOUR



Every time the tour setup menu is entered this is deleted.
TOUR 4 is used for the AUTOPAN function.

The following procedure is valid for all TOURs.

Procedure for adding a position to the selected TOUR :

- Select the first field, press the ENTER key and when the numeric keypad appears set the PRESET number to reach the dome.
- Select the second field, press the ENTER key and use the keypad to set the speed used to reach the position.

- Select the third field, press the ENTER key and use the keypad to set the pause duration when the position is reached.
- Select "Send position" and press the ENTER key to send information to the dome.

To add other positions repeat from the first instruction.
Finally press the ESC key to return to the TOUR execution screen.

	The inserted data are only saved definitively by the dome on exiting the setup screen.

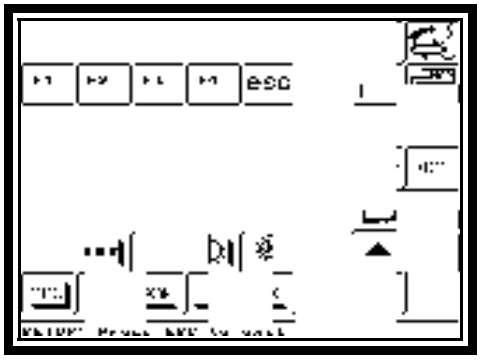
6.14.10 Preset, Scan and Home

The PRESET, SCAN and HOME functions are as described in the general explanation with the following limitations specific to the dome (*see § 4.4.7.1 - Preset, pag.47 e see § 4.4.8 - SCAN MENU, pag.49*).

Type	*Minimum position*	*Maximum position*	*Notes*
PRESET	*1*	*127*	
SCAN	*1*	*127*	
HOME			*Perform the SCAN command to position 1.*

6.14.11 Function keys

From the MAIN menu press the FUNCTION KEYS key to enter the menu for carrying out the specific controls.



F1
Associated function: "Alarm mode on".

F2
Associated function " Alarm mode off".

F3
Associated function. "Mono/Color Toggle".

F4
Associated function: "Mono/Color Auto".

	Refer to the dome manual.

6.15 ENEO receivers

6.15.1 Reference material

ENEO VPT-42/RS1 telemetry receiver.

6.15.2 Configuring the receivers

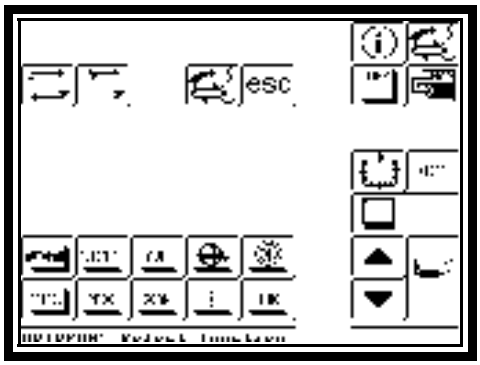
Configure the receiver appropriately as described in the corresponding manual.
Connect the receiver directly to the keyboard and a monitor to the dome video output following the general procedure (*see § 6.18 - Procedure for setting a dome/receiver in operation, pag.191*).

6.15.3 Connecting the hardware

The ENEO receivers can be connected directly to the keyboard using one of the telephone cables supplied with the keyboard (for testing and control) or using the standard connection cable, for distances up to 1200 m (*see § 3.3 - One keyboard per line: standard connection cable, pag.16*).

6.15.4 Autopan

From the MAIN menu press the AUTOPAN key to enter the menu for carrying out the specific function.



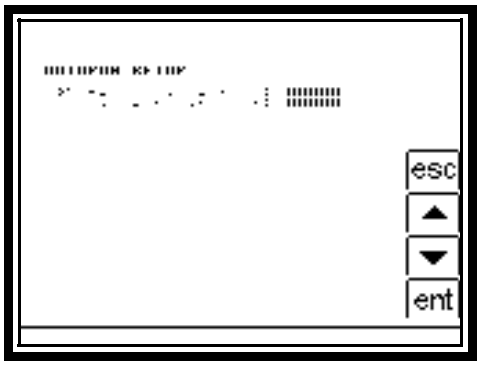
START AUTOPAN
Carries out the related function.

STOP AUTOPAN
Stops the patrol function in progress.

SETUP AUTOPAN
Access to the Autopan function setup menu

For correct Autopan operation the Preset number 63 and Preset number 64 have to be set. With these Preset numbers the stop positions for the Autopan will be defined.

6.15.4.1 Autopan setup



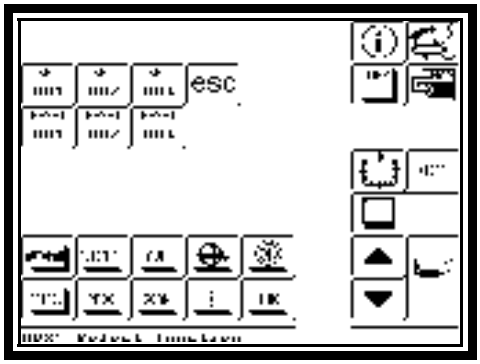
Procedure for setting up the Autopan function:

- Position the cursor on the item Autopan Speed, press the Enter button and insert the required speed value (minimum 1, maximum 255) expressed in minutes. The value of 255 will allow to run the Autopan with no time limitation.
- Position the cursor on the item Autopan Length, press the Enter button and insert the value corresponding to the required duration of the Autopan function expressed in minutes.

Exit the menu and start Autopan.

6.15.5 Aux

From the MAIN menu press the AUX key to enter the menu for carrying out the specific function.

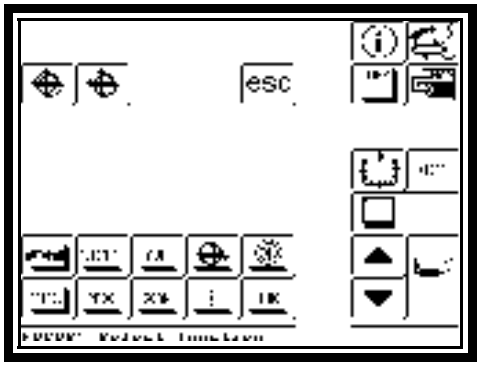


SET No. X
Activates relay No. X

RESET No
Deactivates relay No. X

6.15.6 Focus

From the MAIN menu press the FOCUS key to enter the menu for carrying out the specific function.

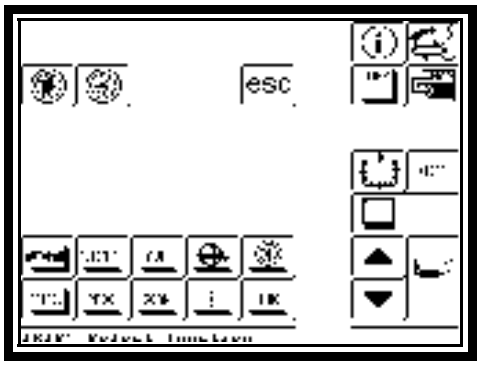


FOCUS FAR
Activates the FOCUS FAR function

FOCUS NEAR
Activates the FOCUS NEAR function

6.15.7 Iris

From the MAIN menu press the IRIS key to enter the menu for carrying out the specific function.

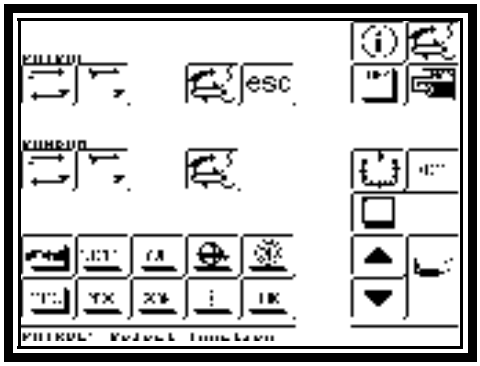


IRIS OPEN
Activates the IRIS OPEN function

IRIS CLOSE
Activates the IRIS CLOSE function

6.15.8 Patrol

From the MAIN menu press the PATROL key to enter the menu for carrying out the specific function.



START PATROL
Carries out the corresponding function.

STOP PATROL
Stops the Patrol function in progress.

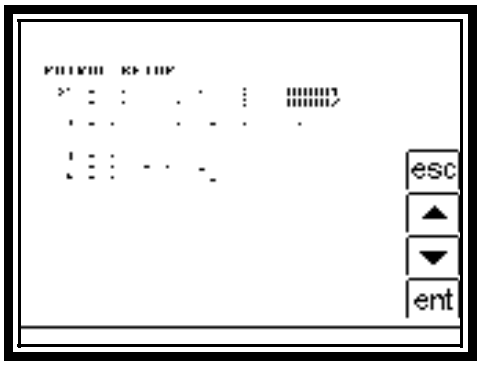
SETUP PATROL
Enters the setup menu for the Patrol function.

START RANDOM
Carries out the corresponding function.

STOP RANDOM
Stops the Patrol function in progress.

SETUP RANDOM
Enters the setup menu for the Random function.

6.15.8.1 Setup Standard Patrol



The Patrol sequence is represented by a series of Preset positions that are performed in succession with the same pause (dwell time) for each position.
The Standard Patrol can have a maximum of 64 positions.

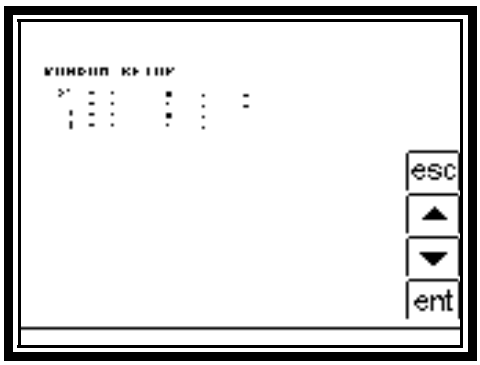
Procedure for setting up the Patrol:

- Position the cursor on the item "Start Patrol", press the button and insert the desired value.
- Position the cursor on the item "End Patrol", press the button and insert the desired value.

- To send the configuration position the cursor on the item "Send start/end Patrol" and press the button.
- Position the cursor on the item "Pause", press the button and insert the desired pause value.
- Position the cursor on the item "PAN Speed", press the button and insert the desired speed value.
- Position the cursor on the item "TILT Speed", press the button and insert the desired speed value.

Exit the menu and start Patrol.

6.15.8.2 Setup Random



The RANDOM sequence is represented by a series of Preset positions that are carried out at random.

Procedure for setting up the RANDOM function:
- Position the cursor on the item "Maximum speed", press the button and insert the desired value.
- Position the cursor on the item "Minimum speed", press the button and insert the desired value.
- Position the cursor on the item "Maximum pause", press the button and insert the desired value.
- Position the cursor on the item "Minimum pause", press the button and insert the desired value.

Exit the menu and start Random.

6.15.9 Preset, Scan and Home

The PRESET, SCAN and HOME functions are as described in the general explanation with the following limitations specific of the dome (*see § 4.4.7.1 - Preset, pag.47 and see § 4.4.8 - SCAN MENU, pag.49*).

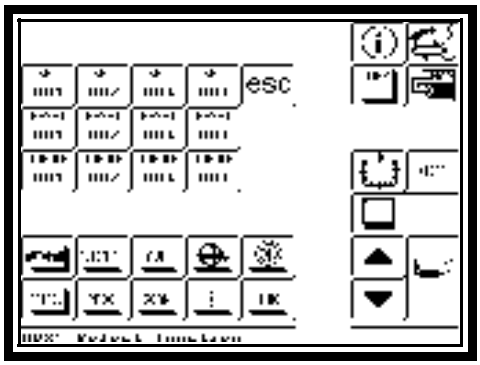
Type	*Minimum position*	*Maximum position*	*Notes*
PRESET	*1*	*64*	
SCAN	*1*	*64*	
HOME			*Carry out the SCAN command to position 1.*

6.15.10 Special codes

Go to the special code insertion screen (*see § 6.1.5 - Organising the configuration menus , pag.98*).
Some parameters can be configured by inserting a special code.

Number	***Function***
SPEED CURVES	

11	*First speed curve*
12	*Second speed curve*
13	*Third speed curve*
14	*(if)*
40	*ositioning limit.*
40	*tioning limit.*
40	*ning limit.*
40	*itioning limit.*
40	*its.*
405	*Disable the positioning limits.*
410	*Activate the function recalling the Home position.*
	Deactivate the function recalling the Home position.
	Configure the pause length before recalling the Home position, with X from 1 to 255.
2XXX	*Configure the Preset recall speed, with X from 1 to 255.*
9999	*Reset receiver remote.*



6.16 VIDEOTEC and Linxs receivers (VIDEOTEC prot.)

6.16.1 Reference material

VIDEOTEC and Linxs telemetry receivers:
DTRX1, DTRX3 (with VIDEOTEC Protocol), DTRXDC, DTMRX1, MICRODEC485

The functions available to the VIDEOTEC and Linxs telemetry receivers differ according to the model under consideration.
The following is a comparative table of the various models:

	DTRX3	*DTRX1 with DTRP*	*DTRX1 w/o DTRP*	*DTRXDC*	*DTMRX1*	*MICRODEC485*
VIDEOTEC protocol	✓	✓	✓	✓	✓	✓
Macro protocol	✓	-	-	-	-	-
Basic functions	✓	✓	✓	✓	✓	✓
Variable speed	-	-	-	✓	-	-
Toggle autopan	✓	✓	✓	✓	✓	-
Start/stop autopan	✓	-	-	-	-	-
Number of relays	*4*	*4*	*4*	*4*	*1*	-
Toggle relays	✓	✓	✓	✓	✓	-
Relays on/off	✓	-	-	-	-	-
Standard patrol (14 pos.)	✓	✓	-	✓	-	-
Extended patrol (40 pos.)	✓	-	-	-	-	-

6.16.2 Configuring the receivers

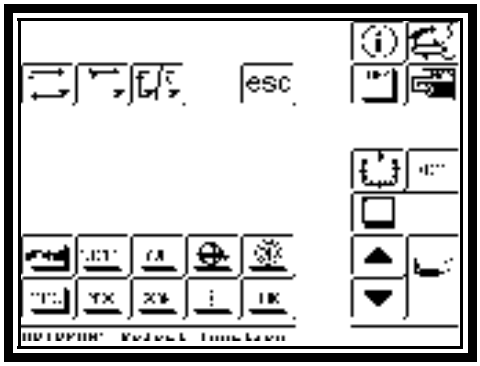
The latest generation of VIDEOTEC receivers allow the choice between two types of protocol (VIDEOTEC and Macro).
This section refers only to the VIDEOTEC protocol.
Connect the receiver directly to the keyboard and a monitor to the dome video output following the general procedure (*see § 6.18 - Procedure for setting a dome/receiver in operation, pag.191*).

6.16.3 Connecting the hardware

The VIDEOTEC and Linxs receivers can be connected directly to the keyboard using one of the telephone cables supplied with the keyboard (for testing and control) or using the standard connection cable, for distances up to 1200 m (*see § 3.3 - One keyboard per line: standard connection cable, pag.16*).

6.16.4 Autopan

From the MAIN menu press the AUTOPAN key to enter the menu for carrying out the specific function.



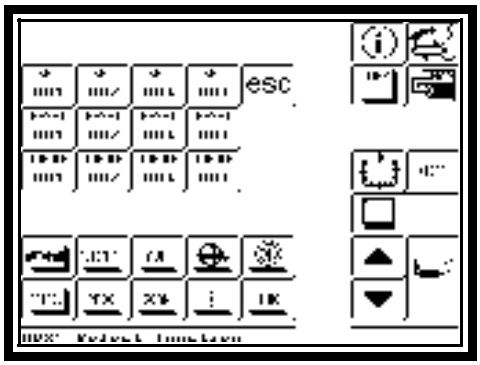
START AUTOPAN
Carries out the corresponding function.

STOP AUTOPAN
Stops the AUTOPAN function.

TOGGLE AUTOPAN
Reverses the current status. If in progress it stops the function and vice versa.

6.16.5 Aux

From the MAIN menu press the AUX key to enter the menu for carrying out the specific function.
When on screen relay activation/deactivation is requested, the message "4 relays available" always appears.
The actual number will vary according to the receiver model connected, as described in the specific table (*see § 6.16.1 - Reference material, pag.179*)



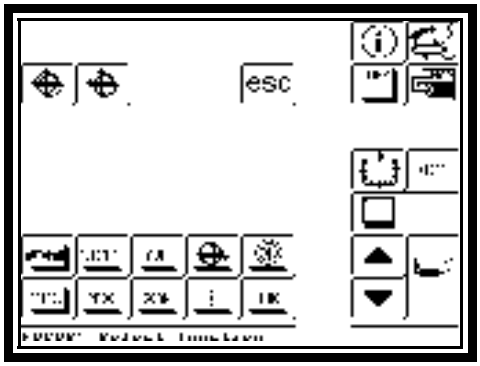
SET No. X
Activates relay No. X

RESET No.
Deactivates relay No. X

TOGGLE No.
Reverses status of relay No. X

6.16.6 Focus

From the MAIN menu press the FOCUS key to enter the menu for carrying out the specific function.

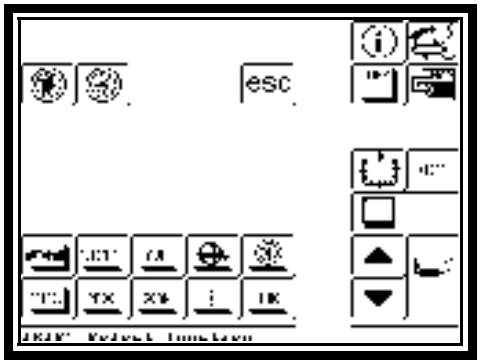


FOCUS FAR
Activates the FOCUS FAR function

FOCUS NEAR
Activates the FOCUS NEAR function

6.16.7 Iris

From the MAIN menu press the IRIS key to enter the menu for carrying out the specific function.

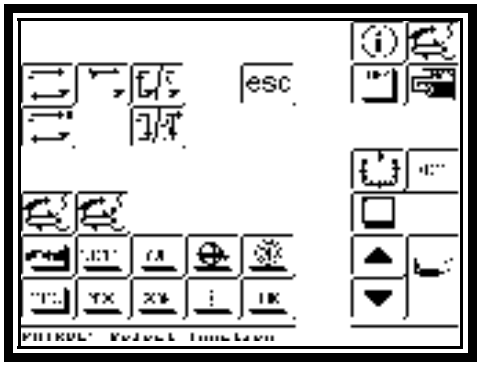


IRIS OPEN
Activates the IRIS OPEN function

IRIS CLOSE
Activates the IRIS CLOSE function

6.16.8 Patrol

From the MAIN menu press the AUTOPAN key to enter the menu for carrying out the specific function.



START STANDARD PATROL
Carries out the corresponding function.

STOP PATROL
Stops the patrol function in progress (Standard and SA).

TOGGLE STANDARD PATROL
Reverses the current status. If in progress the function is stopped and vice versa.

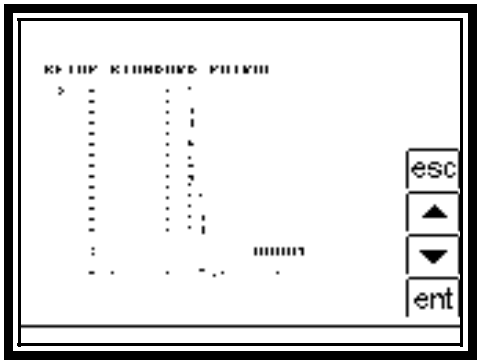
START PATROL SA
Starts the Patrol SA function

TOGGLE PATROL SA
Reverses the current status. If in progress the function is stopped and vice versa.

SETUP STANDARD PATROL
Enters the setup menu for the Standard Patrol function

SETUP PATROL SA
Enters the setup menu for the Patrol SA function

6.16.8.1 Setup standard patrol



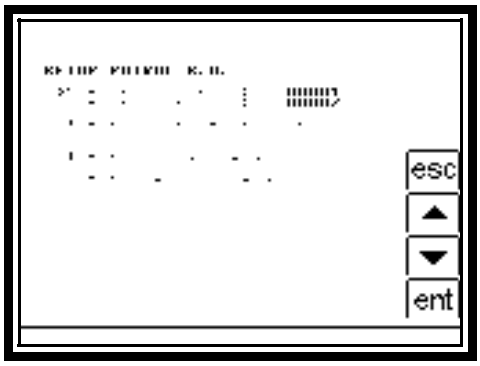
The Patrol sequence is represented by a series of Preset positions that are performed in succession with the same pause (dwell time) for each position.
The Standard Patrol can have a maximum of 14 positions.
The Patrol change only becomes effective after completing transmission of the configuration to the receiver.

Procedure for setting up the Standard Patrol:

- To enable the position, position the cursor next to the Preset position to be enabled and press the key.

- To change the pause length go to the item "Dwell time" and press the key. Insert the desired value and confirm with the ENTER key.
- To send the configuration, position the cursor on the item "Send configuration" and press the key.
- Exit the menu and start the Standard Patrol.

6.16.8.2 Setup Patrol SA



The Patrol sequence is represented by a series of Preset positions that are performed in succession with a pause (dwell time) between each position.
The Patrol SA can have a maximum of 40 positions.
The Patrol change only becomes effective after the changed parameter has been sent..

Procedure for configuring Patrol SA for the Preset positions:

- Position the cursor next to the item "Patrol start", press the key and insert the desired value.
- Position the cursor next to the item "Patrol End", press the key and insert the desired value.
- To send the configuration, position the cursor next to the item "Send start/Patrol end"and press the key.

Procedure for configuring Patrol SA for the Preset positions:

- To change the common pause length, go to the item "Send default pause" and press the key. Insert the desired value and confirm with the ENTER key.
- To change the pause length for an individual position, go to the item "Send specific pause" and press the key. Insert the position number and the desired pause length.
- Exit the menu and start the Patrol SA.

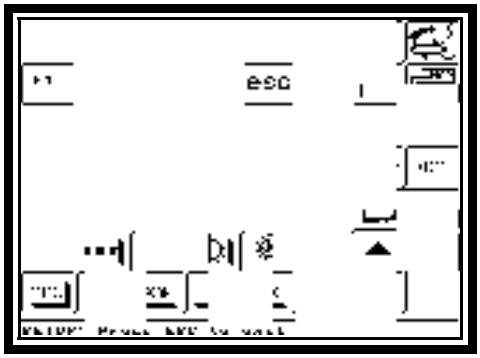
6.16.9 Preset, Scan and Home

The PRESET, SCAN and HOME functions are as described in the general explanation with the following limitations specific to the dome(*see § 4.4.7.1 - Preset, pag.47 e see § 4.4.8 - SCAN MENU, pag.49*).

Type	*Minimum position*	*Maximum position*	*Notes*
PRESET	*1*	*40*	
SCAN	*1*	*40*	
HOME			*Carry out the SCAN command to position 1.*

6.16.10 Function keys

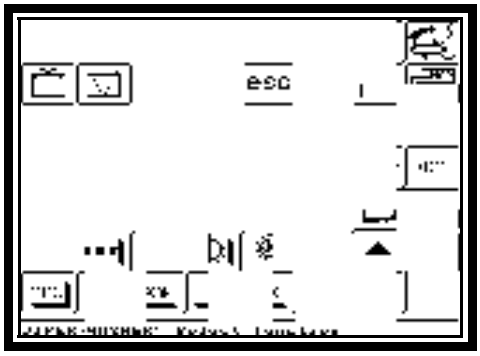
From the MAIN menu press the FUNCTION KEYS key to enter the menu for carrying out the specific controls.



F1
Associated function: "Reset receiver sent".

6.16.11 Wiper and Washer

From the MAIN menu press the key to enter the menu for carrying out the specific function.



WIPER
Carries out the corresponding function

WASHER
Carries out the corresponding function

6.17 VIDEOTEC receivers with the Macro Protocol

6.17.1 Notes

The Macro protocol covers a wide range of products with vastly different functions. Refer to the receiver manual for information on which functions are available.

6.17.2 Reference material

VIDEOTEC telemetry receiver DTRX3.

6.17.3 Configuring the receivers

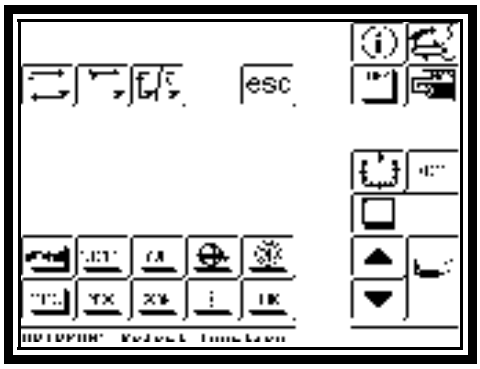
The latest generation of VIDEOTEC receivers allow the choice between two types of protocol (VIDEOTEC and Macro).
This section refers only to the MACRO protocol.
Configure the receiver appropriately as described in the corresponding manual.
Connect the receiver directly to the keyboard and a monitor to the dome video output following the general procedure (*see § 6.18 - Procedure for setting a dome/receiver in operation, pag.191*).

6.17.4 Connecting the hardware

The VIDEOTEC and Linxs receivers can be connected directly to the keyboard using one of the telephone cables supplied with the keyboard (for testing and control) or using the standard connection cable, for distances up to 1200 m (*see § 3.3 - One keyboard per line: standard connection cable, pag.16*).

6.17.5 Autopan

From the MAIN menu press the AUTOPAN key to enter the menu for carrying out the specific function.



START AUTOPAN
Carries out the corresponding function.

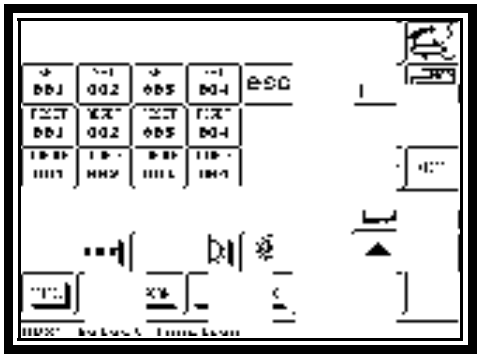
STOP AUTOPAN
Stops the AUTOPAN function.

TOGGLE AUTOPAN
Reverses the current status. If in progress it stops the function and vice versa.

6.17.6 Aux

From the MAIN menu press the AUX key to enter the menu for carrying out the specific function.

When on screen relay activation/deactivation is requested, the message "4 relays available" always appears. The actual number will vary according to the receiver model connected, as described in the specific table (*see § 6.16.1 - Reference material, pag.179*)



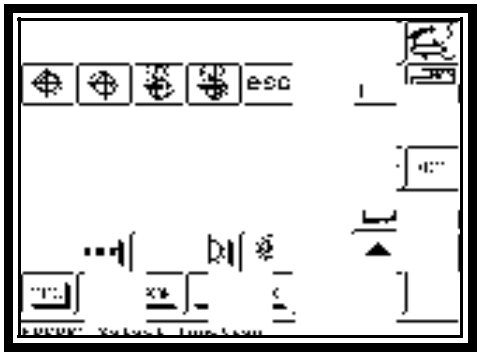
SET No. X
Activates relay No. X

RESET No
Deactivates relay No. X

TOGGLE No
Reverses the status of relay No. X

6.17.7 Focus

From the MAIN menu press the FOCUS key to enter the menu for carrying out the specific function.



FOCUS FAR
Activates the FOCUS FAR function

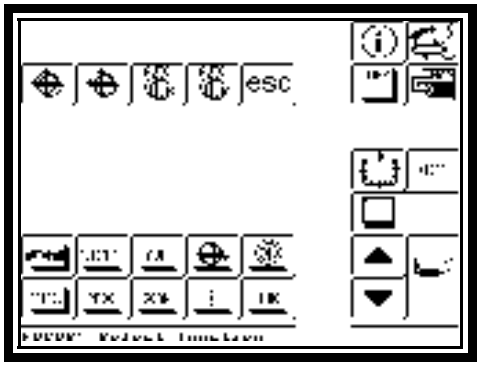
FOCUS NEAR
Activates the FOCUS NEAR function

AUTOFOCUS ON
Activates the AUTOFOCUS function

AUTOFOCUS OFF
Deactivates the AUTOFOCUS function

6.17.8 Iris

From the MAIN menu press the IRIS key to enter the menu for carrying out the specific function.



IRIS OPEN
Activates the IRIS OPEN function

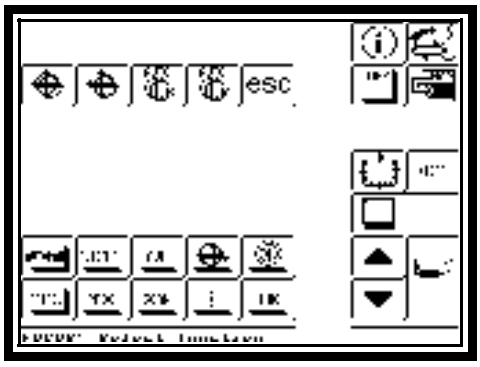
IRIS CLOSE
Activates the IRIS CLOSE function

SET AUTOIRIS
Activates the AUTOIRIS function

RESET AUTOIRIS
Deactivates the AUTOIRIS function

6.17.9 Patrol

From the MAIN menu press the PATROL key to enter the menu for carrying out the specific function.



START STANDARD PATROL
Carries out the corresponding function.

STOP PATROL
Stops the Patrol function in progress (Standard and SA).

TOGGLE STANDARD PATROL
Reverses the current status. If in progress it stops the function and vice versa.

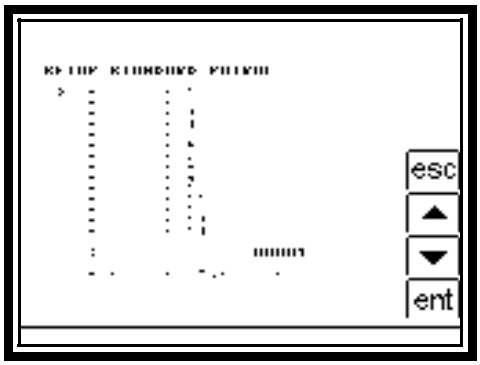
START PATROL SA
Starts the Patrol SA function.

TOGGLE PATROL SA
Reverses the current status. If in progress it stops the function and vice versa.

SETUP PATROL STANDARD
Enters the setup menu for the Standard Patrol function

SETUP PATROL SA
Enters the setup menu for the Patrol SA function

6.17.9.1 Setup Standard Patrol

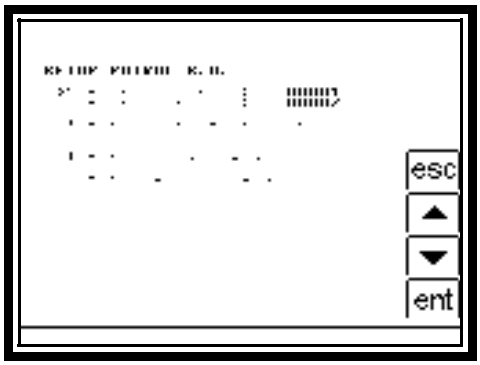


The Patrol sequence is represented by a series of Preset positions that are performed in succession with the same pause (dwell time) for each position.
The Standard Patrol can have a maximum of 14 positions.
The Patrol change only becomes effective after completing transmission of the configuration to the receiver.

Procedure for configuring the Standard Patrol:

- To enable the position, position the cursor next to the Preset position to be enabled and press the key.
- To change the pause length go to the item "Pause" and press the key. Insert the desired value and confirm with the ENTER key.
- To send the configuration, position the cursor on the item "Send configuration" and press the key.
- Exit the menu and start the Standard Patrol.

6.17.9.2 Setup Patrol SA



The Patrol sequence is represented by a series of Preset positions that are performed in succession with a pause (dwell time) between each position.
The Patrol SA can have a maximum of 40 positions.
The Patrol change only becomes effective after the changed parameter has been sent..
Procedure for configuring Patrol SA for the Preset positions:

- Position the cursor next to the item "Patrol start", press the key and insert the desired value.
- Position the cursor next to the item "Patrol End", press the key and insert the desired value.
- To send the configuration, position the cursor next to the item "Send Configuration"and press the key.

Procedure for configuring Patrol SA for the Preset positions:

- To change the common pause length, go to the item "Send default pause" and press the key. Insert the desired value and confirm with the ENTER key.
- To change the pause length for an individual position, go to the item "Send specific pause" and press the key. Insert the position number and the desired pause length.
- Exit the menu and start the Patrol SA.

6.17.10 Preset, Scan and Home

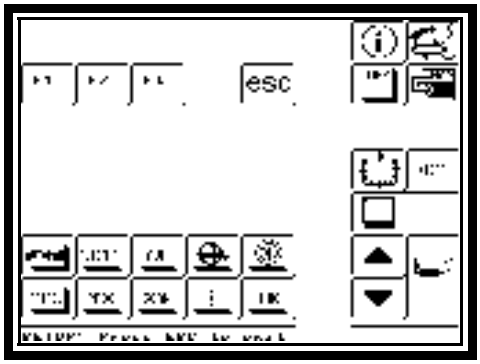
The PRESET, SCAN and HOME functions are as described in the general explanation with the following limitations specific of the dome (*see § 4.4.7.1 - Preset, pag.47 and see § 4.4.8 - SCAN MENU, pag.49*).

Type	*Minimum position*	*Maximum position*	*Notes*
PRESET	*1*	*99(*)*	
SCAN	*1*	*99(*)*	
HOME			*Carry out the SCAN command to position 1 (**).*

(*) maximum 40 positions for the DTRX3
(**) function inactive for the DTRX3

6.17.11 Function keys

From the MAIN menu press the FUNCTION KEYS key to enter the menu for carrying out the specific controls.



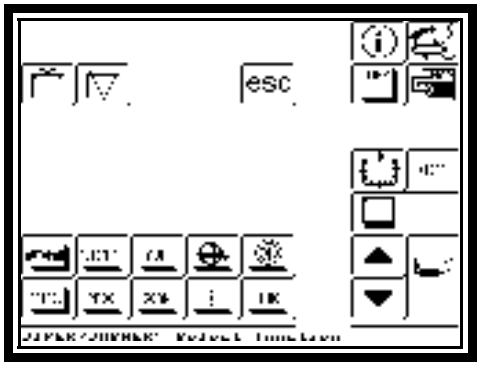
F1
Associated function: "Set Home position".

F2
Associated function: "Reset Home position".

F3
Associated function: "Reset receiver sent".

6.17.12 Wiper and Washer

From the MAIN menu press the ↵ key to enter the menu for carrying out the specific function.



WIPER
Carries out the corresponding function

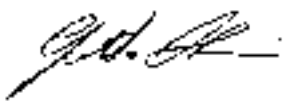
WASHER
Carries out the corresponding function

6.18 Procedure for setting a dome/receiver in operation

How to proceed:

1. Configure to enable telemetry setup (*see § 4.2.4.5 - Functions, pag.34*).
2. Make sure the device to be installed is among those compatible with the keyboard (*see a partire dal § 6.3 - ELMO Dome, pag.107*).
3. Install the device as instructed in its installation manual.
4. Consult the particular sections in this manual concerning how to make the connections and any notes on particular settings for the device to be controlled (for example: protocol, baud rate, etc).
5. For the device to be controlled, configure the physical address of the device so that it is different from all other devices connected on the same RS485 line.
6. Connect the keyboard directly to the dome/receiver as instructed, on one of the two telemetry connectors.
7. In the keyboard parameters configure the device protocol, selecting the appropriate connector and setting the same baud rate (*see § 4.2.3.2 - Telemetry, pag.24*).
   If these parameters are configured incorrectly communication between the devices is impossible.
8. Exit keyboard setup mode and select the camera number corresponding to the address setting for the dome/receiver, or if the address is greater than the maximum number of inputs allowed for the matrix proceed to re-address the dome (*see § 6.1.2.3 - Change address number associated with the camera, pag.96*).
9. Operate the joystick to make sure the typical PAN/TILT/ZOOM controls are recognised by the controlled device.
10. In the corresponding chapter, verify the enabled controls for the specific device and the possibility of direct keyboard setup (*vedi § 6.1.5 - Organising the configuration menus, pag. 98*).

Signature



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